Repair Instructions and Parts List 309423M

Parts

ASM®

Zip-Spray™

- For portable spray application of architectural paints and coatings -

1900 Plus™ Airless Paint Sprayer

3000 psi (207 bar, 20.7 MPa) Maximum Working Pressure

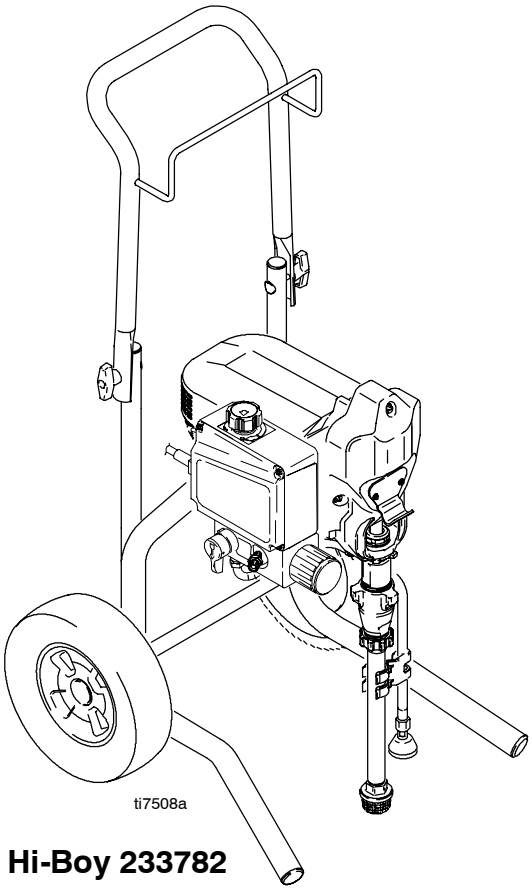
Important Safety Instructions
Read all warnings and instructions in this manual.
Save these instructions.

. . . . . **309427**

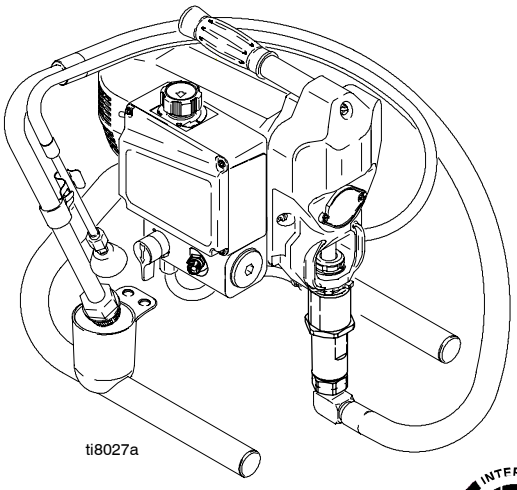
. . . . . **309971**

. . . . . **309428**
Model 233782 (Series A, B)
Model 246649 (Series A, B, C, D)

. . . . . **311062**
Model 233782 (Series C, D, E, F)



Hi-Boy 233782
Series A, B, C, D, E, F



Stand 246649
Series A, B, C, D

INTERTEK ETL LISTED C US

Specifications

This equipment is not intended for use with flammable or combustible materials used in places such as cabinet shops or other "factory" or fixed locations. If you intend to use this equipment in this type of application, you must comply with NFPA 33 and OSHA requirements for the use of flammable and combustible materials.

Warnings

The following Warnings are for the safe setup, use, grounding, maintenance and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. Refer back to these Warnings. Additional, product-specific warnings may be found throughout the body of this manual where applicable.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

Flammable fumes, such as solvent and paint fumes, in **work area** can ignite or explode. To help prevent fire and explosion:

- Use equipment only in well ventilated area.
- Sprayer generates sparks. When flammable liquid is used in or near sprayer for flushing or cleaning, keep sprayer at least 20 feet (6 m) away from explosive vapors.
- Do not clean with materials having flash points lower than 70°F (21°C). Use water-based materials or mineral spirit-type material only. For complete information about your fluid, request the MSDS from the fluid distributor or retailer.
- Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop clothes (potential static arc).
- Keep work area free of debris, including solvent, rags and gasoline.
- Do not plug or unplug power cords or turn lights on or off when flammable fumes are present.
- Ground equipment and conductive objects in work area. Read Grounding instructions.
- Use grounded hoses.
- Hold gun firmly to side of grounded pail when triggering into pail.
- If there is static sparking or you feel a shock, **stop operating immediately**. Do not use equipment until you identify and correct the problem.
- Keep a fire extinguisher in the work area.

SKIN INJECTION HAZARD

High pressure fluid from gun, hose leaks, or ruptured components will pierce skin. This may look like just a cut, but it is a serious injury that can result in amputation. **Get immediate surgical treatment.**

- Do not point gun at anyone or any part of the body.
- Do not put your hand over the spray tip.
- Do not stop or deflect leaks with your hand, body, glove, or rag.
- Do not spray without tip guard and trigger guard installed.
- Engage trigger lock when not spraying.
- Follow **Pressure Relief Procedure** in this manual, when you stop spraying and before cleaning, checking or servicing equipment.

⚠ WARNING

ELECTRIC SHOCK HAZARD

Improper grounding, setup, or usage of the system can cause electric shock.

- Turn off and disconnect power cord before servicing equipment.
- Use only grounded electrical outlets
- Use only 3–wire extension cords.
- Ensure ground prongs are intact on sprayer and extension cords.
- Do not expose sprayer to rain. Store indoors.

INSTRUCTIONS

EQUIPMENT MISUSE HAZARD

Misuse can cause death or serious injury.

- Do not operate the unit when fatigued or under the influence of drugs or alcohol.
- Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See **Technical Data** in all equipment manuals.
- Use fluids and solvents that are compatible with equipment wetted parts. See **Technical Data** in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request MSDS from the fluid distributor or retailer.
- Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only.
- Do not alter or modify equipment.
- Use equipment only for its intended purpose. Call your distributor for information.
- Route hoses and cables away from traffic areas, sharp edges, moving parts and hot surfaces.
- Do not kink or over bend hoses or use hoses to pull equipment.
- Keep children and animals away from work area.
- Comply with all applicable safety regulations.

PRESSURIZED ALUMINUM PARTS HAZARD

Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents in this equipment. Such use could result in a serious chemical reaction, with the possibility of explosion, which could cause death, serious injury and/or substantial property damage.

TOXIC FLUID HAZARD

Toxic fluid or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.

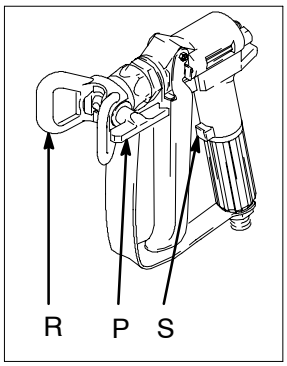
- Read MSDS's to know the specific hazards of the fluids you are using.
- Store hazardous fluid in approved containers and dispose of it according to all applicable guidelines.

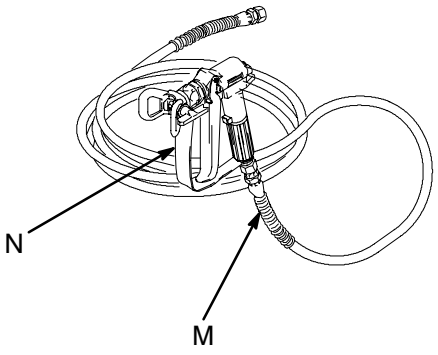
PERSONAL PROTECTIVE EQUIPMENT

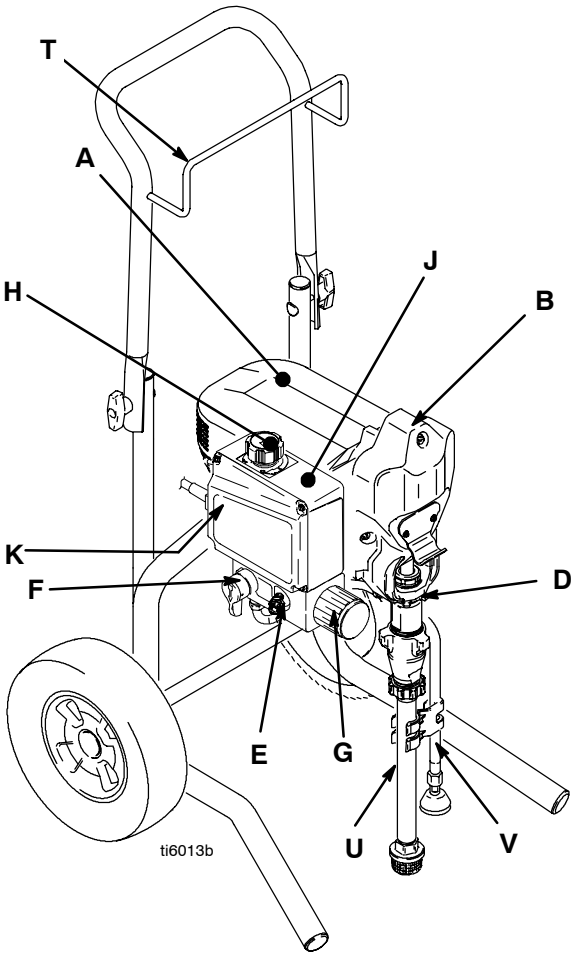
You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect you from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. This equipment includes, but is not limited to:

- Protective eye wear.
- Clothing and respirator as recommended by the fluid and solvent manufacturer.
- Gloves.
- Hearing protection.

Component Identification and Function







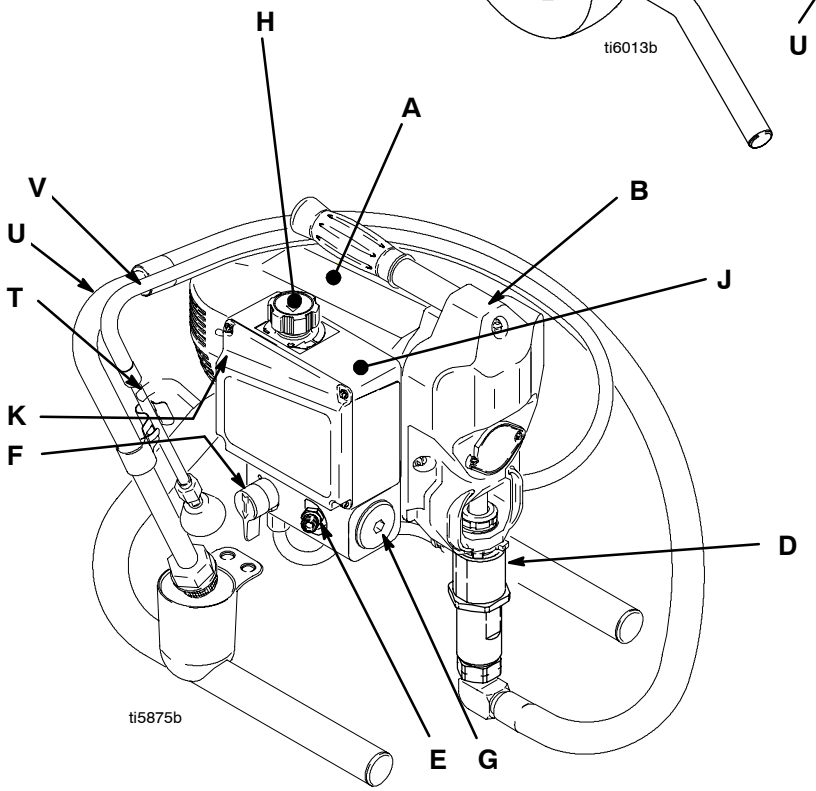


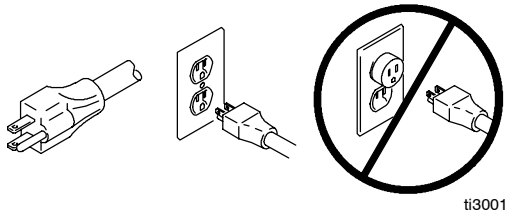
Fig. 1

Component Identification and Function

A	Motor	DC motor, permanent magnet, fan cooled
B	Drive Assembly	Transfers power from DC motor to displacement pump
D	Displacement Pump	Transfers fluid to be sprayed from source through spray gun
E	Fluid Outlet	Spray gun is connected here
F	Prime Valve	Used to prime and drain sprayer (also relieves fluid outlet pressure) when open
G	Fluid Filter (optional)	Final filter of fluid to spray gun
H	Pressure Adjusting Knob	Controls fluid outlet pressure
J	Pressure Control	Controls motor speed to maintain fluid outlet pressure at displacement pump outlet. Works with pressure adjusting knob.
K	ON/OFF Switch	Power switch that controls main power to sprayer
M	50 ft (15 m) Main Hose	1/4 in. ID, grounded, nylon hose with spring guards on both ends
N	Spray Gun	High pressure spray gun with gun safety latch
P	Spray Tip	Uses high pressure fluid to clear tip clogs without removing tip from spray gun
R	Tip Guard	Tip guard reduces risk of injection injury
S	Thumb Lock Safety	Gun safety latch inhibits accidental triggering of spray gun
T	Power Cord Rack	Holds wrapped power cord for storage
U	Suction Hose	Transfers fluid to be sprayed from source to pump
V	Drain Tube	Fluid outlet used to drain and prime the sprayer

Grounding and Electric Requirements

The sprayer must be grounded. Grounding reduces the risk of static and electric shock by providing an escape wire for the electrical current due to static build up or in the event of a short circuit.



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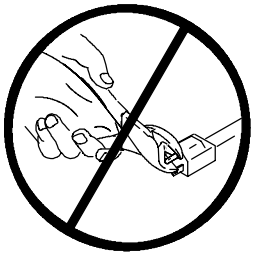
- **The sprayer requires** a 120V AC, 60 Hz, 15A circuit with grounding receptacle. Never use an outlet that is not grounded or an adapter.



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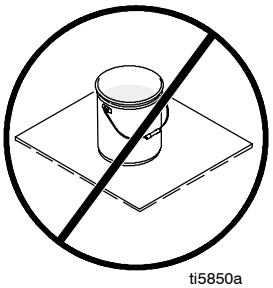
- Do not use the sprayer if the electrical cord has a damaged ground prong. Only use a 3-wire **extension cord** with an undamaged, 3-prong plug.
- **Recommended extension cords** for use with this sprayer:
  - 25 ft (7.6 m) 18 AWG
  - 50 ft (15.2 m) 16 AWG
  - 100 ft (30.5 m) 14 AWG
  - 150 ft. (45.7 m) 12 AWG

Smaller gauge or longer extension cords may reduce sprayer performance.

- **Ground sprayer gun** through connection to a properly grounded fluid hose and pump.

- **Ground fluid supply container.** Follow local code.



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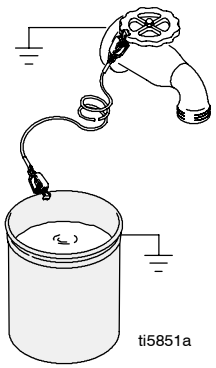
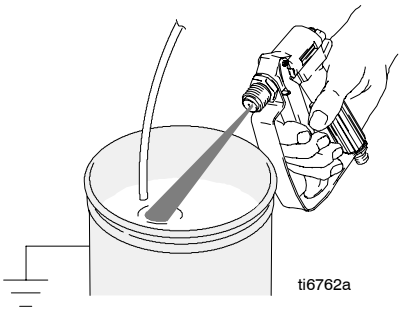
- **Ground solvent pails used when flushing**. Follow local code. Use only conductive, metal pails, placed on a grounded surface such as concrete. Do not place the pail on a non-conductive surface such as paper or cardboard, which interrupts the grounding continuity.

Grounding and Electric Requirements



- **Ground the metal pail** by clamping one end of ground wire to pail and the other end to ground, such as a water pipe.



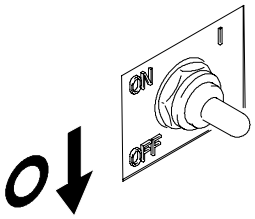
- **Maintain grounding continuity** when flushing or relieving pressure by holding metal part of spray gun firmly to side of a grounded metal pail, then trigger gun.

Thermal Overload

- Motor has a thermal overload switch to shut itself down if overheated.
- To reduce risk of injury from motor starting unexpectedly when it cools, always turn power switch OFF if motor shuts down.

Pressure Relief Procedure

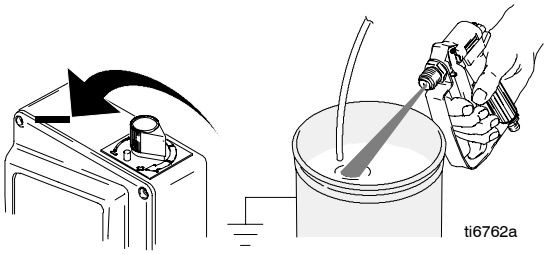
Follow Pressure Relief Procedure when you stop spraying and before cleaning, checking, servicing or transporting equipment.



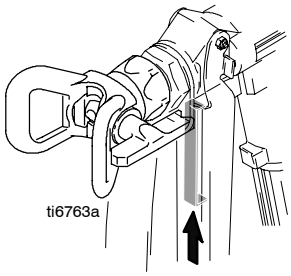
1. Turn power switch OFF and unplug power cord.

PRIME

2. Turn Spray–Prime/Drain valve to PRIME/DRAIN to relieve pressure.



3. Turn pressure to lowest setting. Hold metal part of gun firmly to a grounded metal pail. Trigger gun to relieve pressure.



4. Engage trigger lock.

PRIME

- Leave Spray–Prime/Drain valve in PRIME/DRAIN position until you are ready to spray again.
- *If you suspect the spray tip is clogged or that pressure has not been fully relieved after following the above steps, VERY SLOWLY loosen tip guard retaining nut or hose end coupling to relieve pressure gradually. Then loosen completely. Clear hose or tip obstruction.*

General Repair Information

⚠ WARNING

Flammable materials spilled on hot, bare, motor could cause fire or explosion. To reduce risk of burns, fire or explosion, do not operate sprayer with cover removed.

- Keep all screws, nuts, washers, gaskets, and electrical fittings removed during repair procedures. These parts usually are not provided with replacement kits.
- Test repairs after problems are corrected.
- If sprayer does not operate properly, review repair procedure to verify you did it correctly. See Troubleshooting, page 10.
- Overspray may build up in the air passages. Remove any overspray and residue from air passages and openings in the enclosures whenever you service sprayer.
- Do not operate the sprayer without the motor shroud in place. replace if damaged. Motor shroud directs cooling air around motor to prevent overheating and insulate the control board from accidental electric shock.

⚠ WARNING

To reduce risk of serious injury, including electric shock:

- Do not touch moving or electric parts with fingers or tools while testing repair

- Unplug sprayer when power is not required for testing
- Install all covers, gaskets, screws and washers before you operate sprayer

CAUTION

- Do not run sprayer dry for more than 30 seconds. Doing so could damage pump packings.
- Protect the internal drive parts of this sprayer from water. openings in the cover allow for air cooling of the mechanical parts and electronics inside. If water gets in these openings, sprayer could malfunction or be permanently damaged.
- Prevent pump corrosion and damage from freezing. Never leave water or water–base paint in sprayer when it is not in use in cold weather. Freezing fluids can seriously damage sprayer. Store sprayer with Pump armour to protect sprayer during storage.
- Do not operate the sprayer without the motor shroud or control box cover in place. Replace if damaged. Motor shroud directs cooling air around motor to prevent overheating and the control box cover insulates the control board from accidental electric shock.

Troubleshooting

Before performing any repairs, **relieve pressure**, page 8.

MOTOR WON'T OPERATE

TYPE OF PROBLEM	WHAT TO CHECK *If check is OK, go to next check*	WHAT TO DO *When check is not OK refer to this column*
Basic Fluid Pressure Problems	1. Pressure control knob setting. Motor will not run if at minimum setting (fully counterclockwise).	1. Slowly increase pressure setting to see if motor starts.
	2. Spray tip or fluid filter may be clogged.	2. Relieve pressure and clear clog or clean filter; refer to separate gun or tip instruction manual.
Basic Mechanical Problems	1. Pump (13) frozen or hardened paint.	1. Thaw sprayer if water or water-based paint has frozen in sprayer. Place sprayer in warm area to thaw. Do not start sprayer until thawed completely. If paint hardened (dried) in sprayer, replace pump packings. See page 26 (**Displacement Pump Replacement**).
	2. Displacement pump connecting rod pin (9a). Pin must be completely pushed into connecting rod (9) and retaining spring (9b) must be firmly in groove of pump pin. See Fig. 11.	2. Push pin into place and secure with spring retainer.
	3. Motor (1). Remove drive housing assembly (10). See page 24. Try to rotate fan by hand.	3. Replace motor (1) if fan won't turn. See page 25.

Basic Electrical Problems See Wiring Diagram, page 17.	1. Motor control board. Board shuts down and displays error code on some models.	1. See **Motor Control Board Diagnostics**, page 19.
	2. Electrical supply. Meter must read 100–130 VAC for 110–120 VAC models and 210–255 VAC for 240 VAC models.	2. Reset building circuit breaker; replace building fuses. Try another outlet.
	3. Extension cord. Check extension cord continuity with volt meter.	3. Replace extension cord.
	4. Sprayer power supply cord. Inspect for damage such as broken insulation or wires.	4. Replace power supply cord.
	5. Fuse. Check replaceable fuse on control board.	5. Replace fuse after motor inspection.
	6. Motor leads are securely fastened and properly connected to control board.	6. Replace loose terminals; crimp to leads. Be sure terminals are firmly connected. Clean circuit board terminals. Securely reconnect leads.
	7. Motor thermal switch. Yellow motor leads must have continuity through thermal switch.	7. Replace motor. See page 25, Motor Replacement.
	8. Brush cap missing or loose brush lead connections.	8. Install brush cap or replace brushes if leads are damaged. See page 14, Motor Brush Replacement.
	9. Brush length which must be 1/4 in. (6 mm) minimum. NOTE: Brushes do not wear at the same rate on both sides of motor. Check both brushes.	9. Replace brushes. See page 14, Motor Brush Replacement.
	10. Motor armature commutator for burn spots, gouges and extreme roughness.	10. Remove motor and have motor shop resurface commutator if possible. See page 25, Motor Replacement.
	11. Motor armature for shorts using armature tester (growler) or perform spin test, page 14.	11. Replace motor. See page 25, Motor Replacement.
	12. Pressure control not plugged in to control board.	12. Insert pressure control connector into control board.

Troubleshooting

LOW OR FLUCTUATING OUTPUT

TYPE OF PROBLEM	WHAT TO CHECK *If check is OK, go to next check*	WHAT TO DO *When check is not OK refer to this column*
Low Output	1. For worn spray tip.	1. Follow **Pressure Relief Procedure Warning,** then replace tip. See your separate gun or tip manual.
	2. Verify pump does not continue to stroke when gun trigger is released.	2. Service pump. See page 26.
	3. Filter clogged (If optional filter is installed).	3. Relieve pressure. Check and clean filter.
	4. Prime valve leaking.	4. Relieve pressure. Repair prime valve.
	5. Suction hose connections.	5. Tighten any loose connections.
	6. Electrical supply with volt meter. Meter must read: 210–255 Vac for 220–240 Vac models. 85–130 Vac for 100–120 Vac models. Low voltages reduce sprayer performance.	6. Reset building circuit breaker; replace building fuse. Repair electrical outlet or try another outlet.
	7. Extension cord size and length; must be at least 12 gauge wire and no longer than 300 ft. Longer cord lengths reduce sprayer performance.	7. Replace with a correct, grounded extension cord.
	8. Leads from motor to pressure control circuit board (35) for damaged or loose wires or connectors. Inspect wiring insulation and terminals for signs of overheating.	8. Be sure male terminal blades are centered and firmly connected to female terminals. Replace any loose terminal or damaged wiring. Securely reconnect terminals.
	9. For loose motor brush leads and terminals. See page 14.	9. Tighten terminal screws. Replace brushes if leads are damaged. See page 14.
	10. For worn motor brushes which must be 1/4 in. (6 mm) minimum. See page 14.	10. Replace brushes. See page 14.
	11. For broken or missing motor brush caps.	11. Replace brushcap if broken. Realign spring with brush. See page 14.
	12. Motor brushes for binding in brush holders. See page 14.	12. Clean brush holders, remove carbon dust with small cleaning brush. Align brush lead with slot in brush holder to assure free vertical brush movement.
	13. Low stall pressure.	13. Do either or both: a. Turn pressure control knob fully clockwise. Make sure pressure control knob is properly installed to allow full clockwise position. b. Try a new transducer.
	14. Motor armature for shorts by using an armature tester (growler) or perform spin test. See page 14.	14. Replace motor. See page 25.

Troubleshooting

LOW OR FLUCTUATING OUTPUT

TYPE OF PROBLEM	WHAT TO CHECK *If check is OK, go to next check*	WHAT TO DO *When check is not OK refer to this column*
Motor runs and pump strokes	1. Paint supply.	1. Refill and reprime pump.
	2. Intake strainer clogged.	2. Remove and clean, then reinstall.
	3. Suction tube or fittings loose.	3. Tighten; use thread sealant or sealing tape on threads if necessary.
	4. To see if intake valve ball and piston ball are seating properly. See page 26.	4. Remove intake valve and clean. Check balls and seats for nicks; replace if necessary, page 26. Strain paint before using to remove particles that could clog pump.
	5. Leaking around throat packing nut which may indicate worn or damaged packings. See page 26.	5. Replace packings, page 26. Also check piston valve seat for hardened paint or nicks and replace if necessary. Tighten packing nut/wet-cup.
	6. Pump rod damage.	6. Repair pump, page 26.
	7. Capacitor failure. Visually inspect capacitor near terminals. Ensure that orange safety relief plug is intact.	7. Replace capacitor.
Motor runs but pump does not stroke	1. Displacement pump pin (9a) (damaged or missing), page 26.	1. Replace pump pin if missing. Be sure retainer spring (9b) is fully in groove all around connecting rod, page 26.
	2. Connecting rod assembly (9) for damage, page 24.	2. Replace connecting rod assembly, page 24.
	3. Gears or drive housing, page 24.	3. Inspect drive housing assembly and gears for damage and replace if necessary, page 24.
Motor is hot and runs intermittently	1. Be sure ambient temperature where sprayer is located is not more than 115 °F (46 °C) and sprayer is not located in direct sun.	1. Move sprayer to shaded, cooler area if possible.
	2. Motor has burned windings indicated by removing positive (red) brush and seeing burned adjacent commutator bars.	2. Replace motor. See page 25, **Motor Replacement**.
	3. Tightness of pump packing nut. Overtightening tightens packings on rod, restricts pump action and damages packings.	3. Loosen packing nut. Check for leaking around throat. Replace pump packings if necessary. See pump manual 309428.

Spin Test

Setup

To check armature, motor winding and brush electrical continuity:

1. **Relieve pressure;** page 8.
2. Remove drive housing; page 24.
3. Fig. 2. Remove pressure control cover (39). Disconnect red and black motor leads from control board.
4. Fig. 3. Remove motor shroud (74).

Armature Short Circuit Test

Quickly turn motor fan by hand. If no electrical shorts, motor coasts two or three revolutions before complete stop. If motor does not spin freely, armature is shorted. Replace motor; page 25.

Armature, Brushes, and Motor Wiring Open Circuit Test (Continuity)

1. Connect red and black motor leads together with test lead. Turn motor fan by hand at about two revolutions per second.
2. If uneven or no resistance, check for: broken brush springs, brush leads, motor leads; loose brush terminal screws, motor lead terminals; worn brushes. Repair as needed; page 14.
3. If still uneven or no resistance, replace motor; page 25.

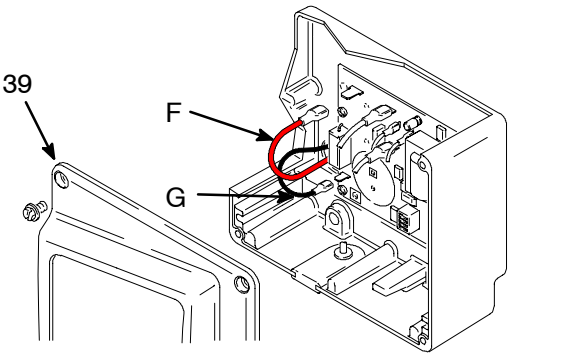


Fig. 2

Motor Brush Replacement

Motor Brush Removal

Replace brushes worn to less than 1/4 in. (6 mm). Check both sides. See Parts List pages 27 – 40 for correct brush kit for your series of sprayer.

1. Read **General Repair Information**; page 10.

2. **Relieve pressure;** page 8.
3. Fig. 3. Remove four screws (18) and motor shroud (74).
4. Pry off two brush caps (A). Tag locations of red (+) and black (–) motor leads. Cut tie wrap.
5. Fig. 5. Remove screw (C) and discard brush (B) for motor with capacitor attached. Remove brush leads from control box for motor without capacitor attached.

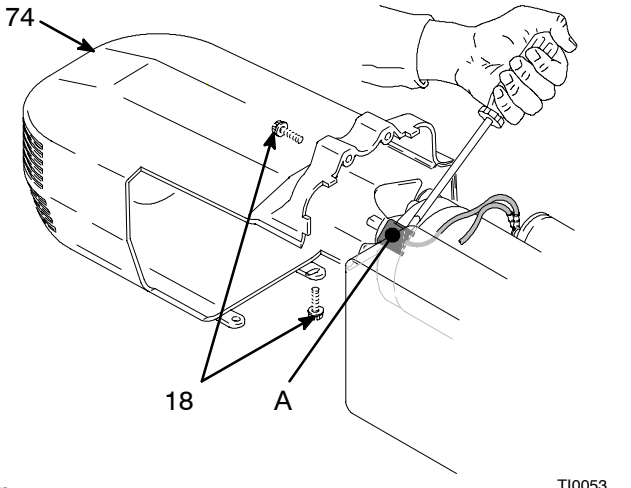


Fig. 3

Motor Brush Replacement

6. Fig. 4. Insert brush (B). Push cap (A) into place over brush. Orient each cap with the 2 projections on either side of the brush lead. You will hear a “snap” when cap is securely in place.

CAUTION

When installing brushes, follow all steps carefully to avoid damaging parts.

7. Fig. 4. Install red (+) and black (–) motor leads according to tags. Install brush lead end with screw (C) to motor-mounted capacitor or route lead into control box and connect to board.

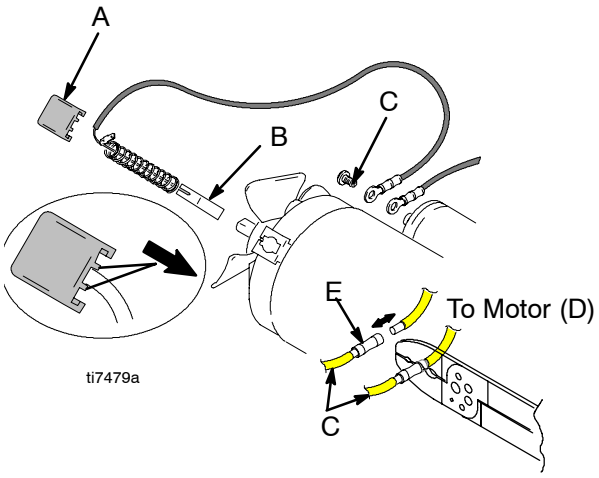


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Fig. 4

8. If replacement brush harness has 2 yellow wires (C), cut, strip, and crimp the 2 yellow wires (D) from the motor and butt splice (E) on the replacement harness.

9. Inspect commutator for excessive pitting, burning or gouging. A black color on commutator is normal. Have commutator resurfaced by a motor repair shop if brushes wear too fast.

10. Test brushes.

    a. Remove pump (13); **Displacement Pump Replacement**, page 26.

    b. With sprayer OFF, turn pressure control knob fully counterclockwise to minimum pressure. Plug in sprayer.

    c. Turn sprayer ON. Slowly increase pressure until motor is at full speed.

11. Break in brushes.

    a. Operate sprayer 1 hour with no load.

    b. Install pump (13); **Displacement Pump Replacement**, page 26.

On/Off Switch Replacement

Removal

1. **Relieve pressure;** page 8.
2. Fig. 5. Remove four screws (18) and pressure control cover (39).
3. Disconnect two wires (A) from ON/OFF switch (23).
4. Remove toggle boot (25) and locking ring (24). Remove ON/OFF switch (23).

Installation

1. Install new ON/OFF switch (23). Install locking ring (24) and toggle boot (25).
2. Connect two wires (A) to ON/OFF switch.
3. Install pressure control cover (39) with four screws (18).

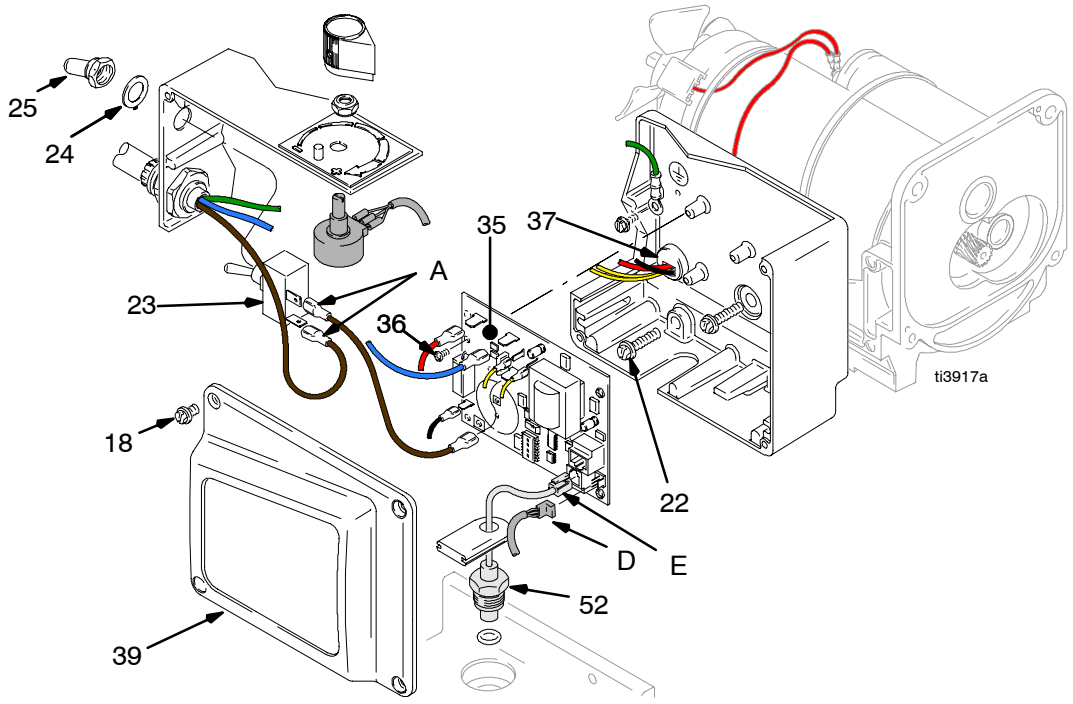


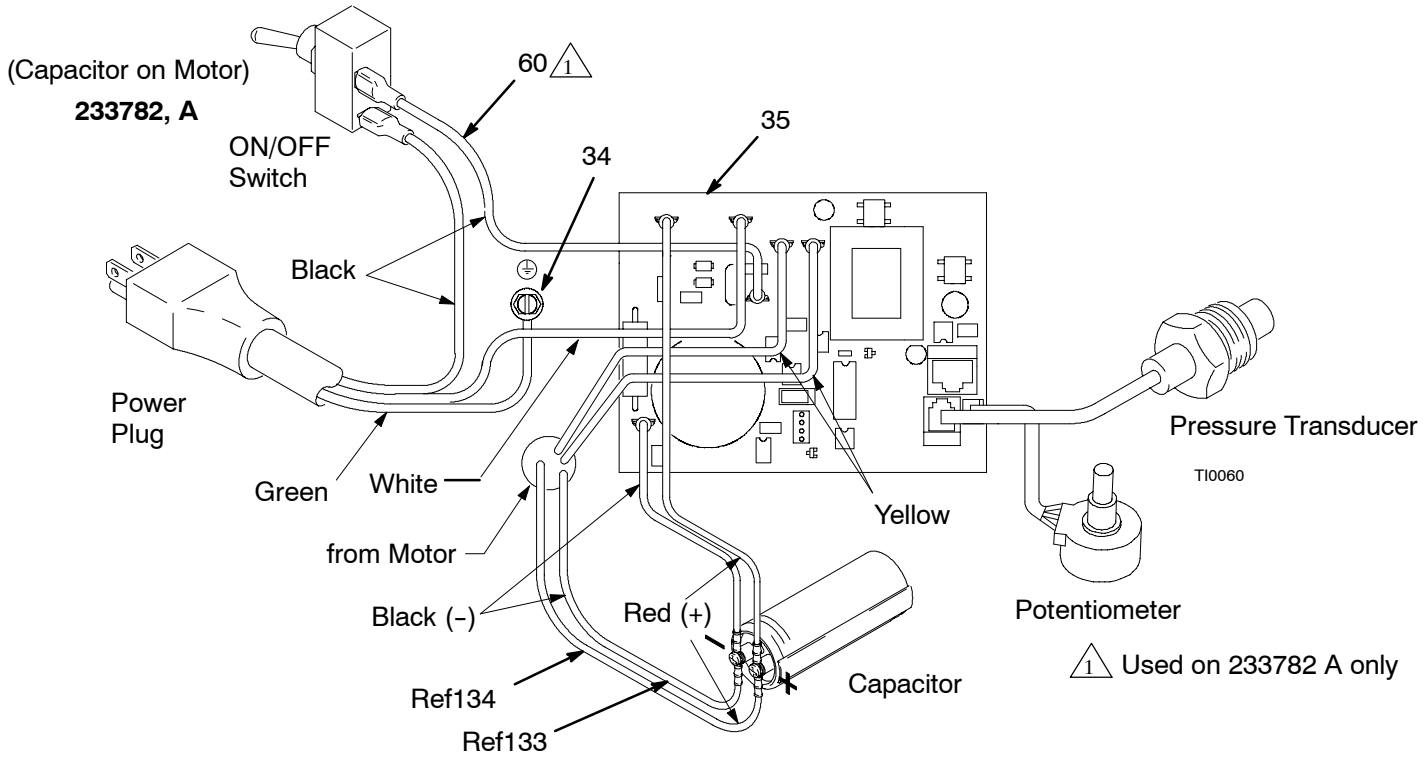
Fig. 5

Wiring Diagram

120 Vac

(Capacitor on Motor)

233782, A



(Capacitor on PC Board)

233782, B, C, D, E
246649, A, B, C

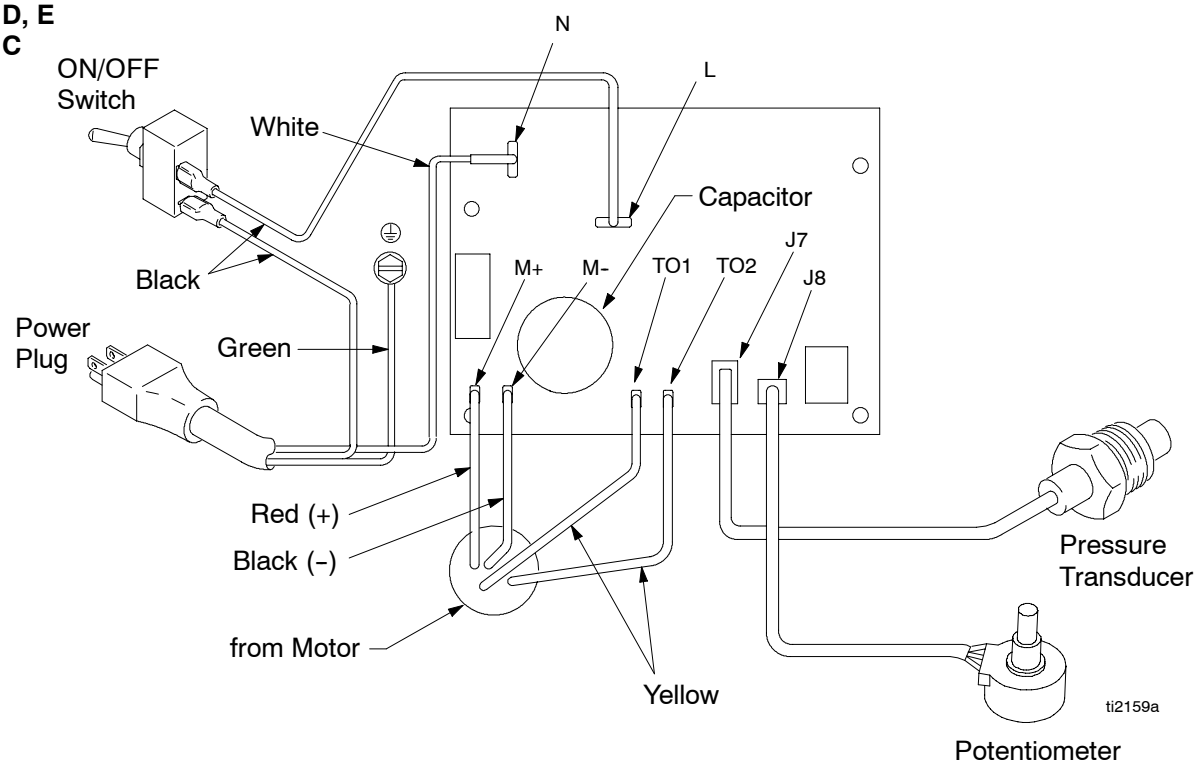


Fig. 6

Wiring Diagram

233782: F
246649: D

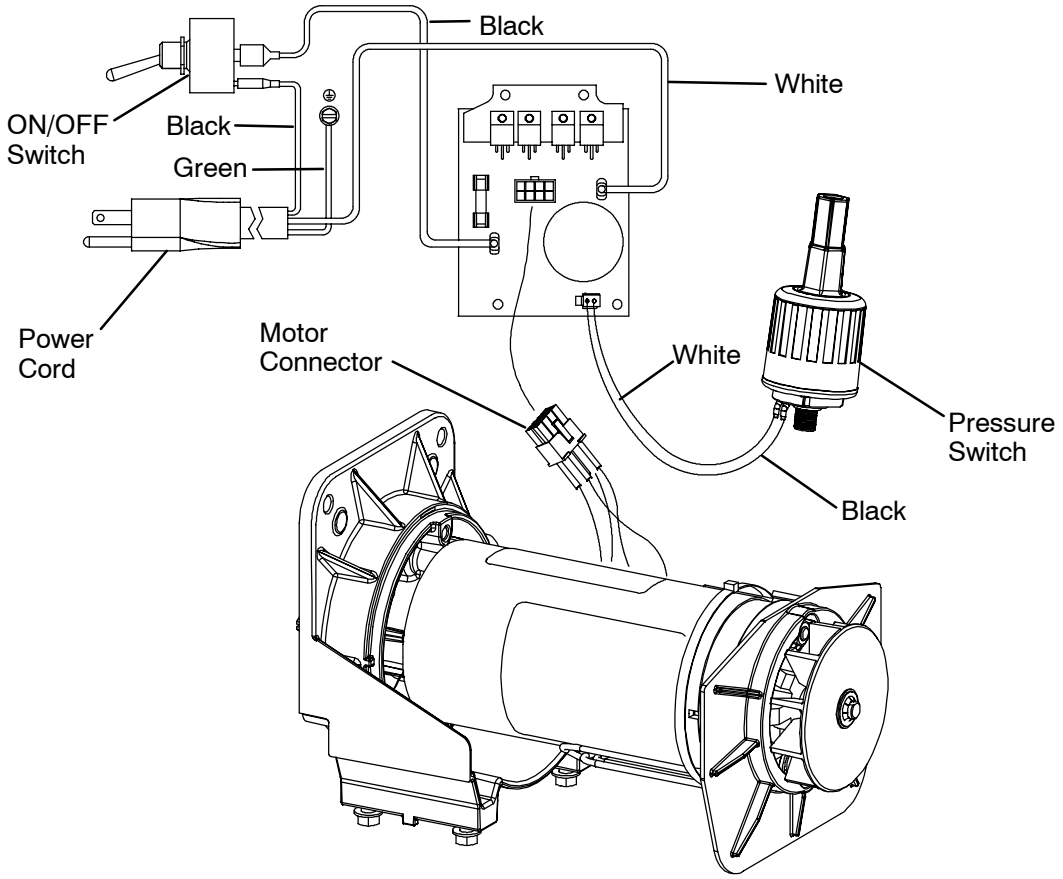


Fig. 7

Pressure Control Repair

Motor Control Board Diagnostics

For these Models and Series ONLY:
233782: A, B, C, D, E
246649: A, B, C

Note: Keep a new transducer on hand to use for test.

CAUTION

Do not allow sprayer to develop fluid pressure without transducer installed. Leave drain valve open if test transducer is used.

1. Remove four screws (18) and cover (39).
2. Turn ON/OFF switch ON.
3. Observe LED operation and reference following table:

4. **Relieve pressure** and unplug sprayer before servicing control board**;** page 8.

LED BLINKS	SPRAYER OPERATION	INDICATES	WHAT TO DO
Once	Sprayer runs	Normal operation	Do nothing
Once and stays ON	Sprayer shuts down and LED stays ON	Motor open circuit or bad control board	Check motor brushes and armature. If OK, replace motor control board.
Two times repeatedly	Sprayer shuts down and LED continues to blink two times repeatedly	Run away pressure. Pressure greater than 4500 psi (310 bar, 31 MPa).	Replace motor control board. See following **Motor Control Board** procedure.
Three times repeatedly	Sprayer shuts down and LED continues to blink three times repeatedly	Pressure transducer is faulty or missing	Check transducer connection. Open drain valve. Substitute new transducer for transducer in sprayer. If sprayer runs, replace transducer.
Four times repeatedly	Sprayer shuts down and LED continues to blink four times repeatedly	Line voltage is too high	Check for voltage supply problems
Five times repeatedly	Sprayer shuts down and LED continues to blink five times repeatedly	Too much current	Check for locked rotor, shorted wiring or motor. Repair or replace failed parts.
Six times repeatedly	Sprayer shuts down and LED continues to blink six times repeatedly	Motor thermal switch open circuit	Check for binding in pump or drive. Check for bad motor.

Pressure Control Repair

Motor Control Board

For these Models and Series ONLY:
233782: A, B, C, D, E
246649: A, B, C

Removal

Refer to Fig. 5 and 6.

1. **Relieve pressure;** page 8.
2. Remove four screws (18) and cover (39).
3. Disconnect at motor control board (35):
   - Four motor leads: two yellow, black (–) and red (+).
   - Two line voltage leads.
   - Lead (D) from potentiometer.
   - Lead (E) from transducer.
4. Remove five screws (36) and circuit board (35).

Installation

1. Clean pad on rear of motor control board. Apply small amount of thermal compound 073019 to pad.
2. Fig. 5. Install motor control board (35) with five screws (36).
3. Connect to motor control board (35):
   - Lead (E) to transducer.
   - Lead (D) to potentiometer.
   - Two line voltage leads.
   - Four motor leads: two yellow, black (–) and red (+).
4. Install cover (39) with four screws (18).
   - Lead (D) to potentiometer.
   - Two line voltage leads.
   - Four motor leads: two yellow, black (–) and red (+).
5. Install cover (39) with four screws (18).

Pressure Control Repair

For these Models and Series ONLY:
233782: A, B, C, D, E
246649: A, B, C

Pressure Control Transducer

Removal

Refer to Fig. 5 and 6.

1. **Relieve pressure;** page 8.
2. Remove four screws (18) and cover (39).
3. Disconnect lead (E) from motor control board (35).
4. Remove two screws (22) and filter housing (45).
5. Thread transducer lead plastic connector down through transducer grommet (28).
6. Remove pressure control transducer (52) and packing o-ring (51) from filter housing.

Installation

1. Install packing o-ring (51) and pressure control transducer (52) in filter housing (45). Torque to 30–35 ft-lb.
2. Thread transducer lead plastic connector up through transducer grommet (28).
3. Install filter housing (45) with two screws (22).
4. Connect lead (E) to motor control board (35).
5. Install cover (39) with four screws (18).

Pressure Adjust Potentiometer

Removal

Refer to Fig. 5 and 6.

1. **Relieve pressure;** page 9.
2. Remove four screws (18) and cover (39).
3. Disconnect all leads from motor control board (35).
4. Remove five screws (36) and board (35)
5. Remove potentiometer knob (27), sealing shaft nut (33) and pressure adjust potentiometer (26).

Installation

1. Install pressure adjust potentiometer (26), sealing shaft nut (33) and potentiometer knob (27).
   a. Turn potentiometer fully clockwise.
   b. Install knob at full clockwise position.
2. Install board (35) with five screws (36).
3. Connect all leads to motor control board (35).
4. Install cover (39) with four screws (18).

Pressure Control Repair

For these Models and Series ONLY:
233782: F
246649: D

Motor Control Board

Removal

1. **Relieve pressure**; page 8.
2. Remove 4 screws (17) and control cover (16).
3. Disconnect motor connector, pressure control connector, white wire to control board (8) and black wire to switch (4).
4. Remove 4 screws (9) and control board (8).

Installation

1. Assemble control board (8) with 4 screws (9).
2. Connect motor connector, pressure control connector, white wire to control board (8) and black wire to switch (4).
3. Install cover (16) with 4 screws (17).

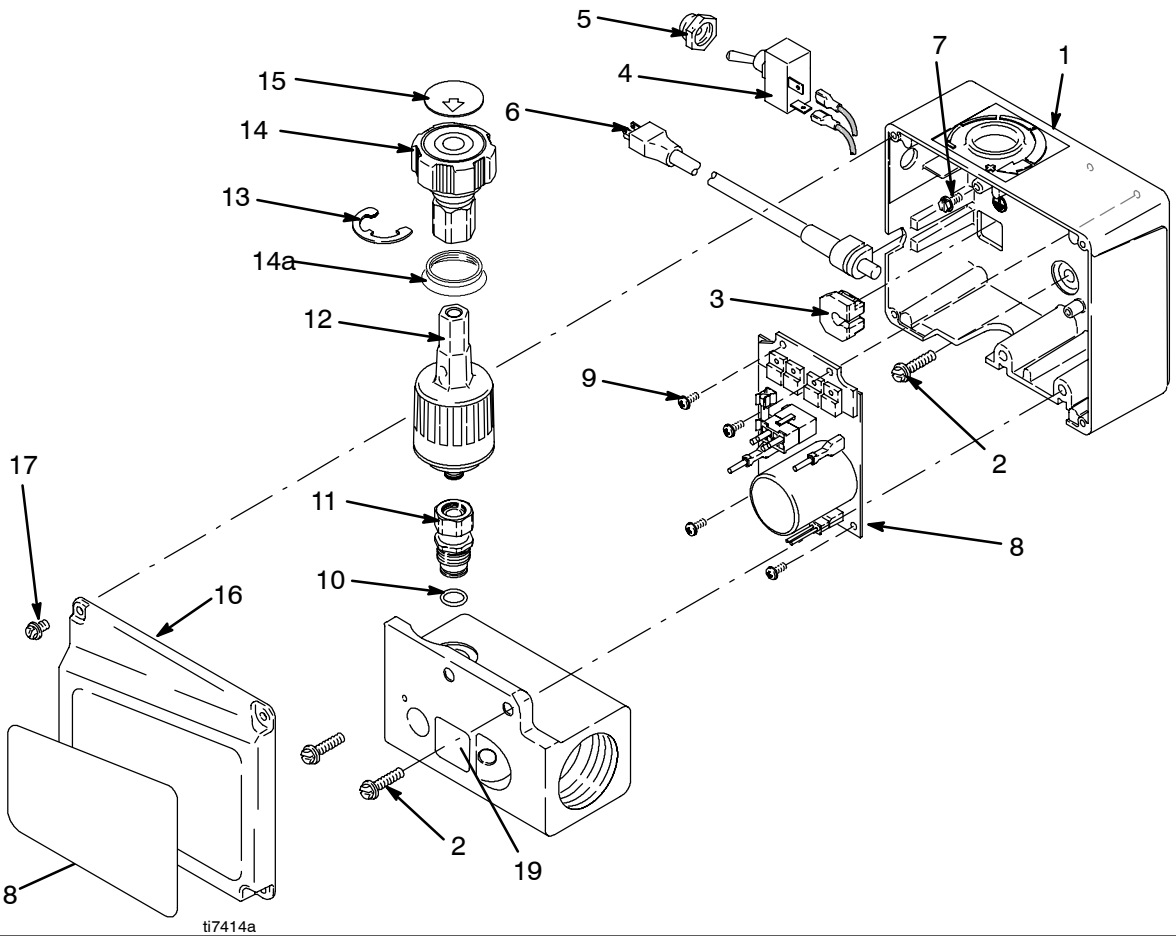


Fig. 8

Pressure Control Repair

For these Models and Series ONLY:
233782: F
246649: D

Pressure Control

Removal (See Fig. 8, page 22)

1. **Relieve pressure**; page 8.
2. Remove 4 screws (17) and control cover (16).
3. Disconnect pressure control connector from control board (8).
4. Remove clip (13) from control knob (14). Slide knob (14) off of pressure control (12) and remove knob (14) and baffle (14a) from control box (1).
5. Disconnect high pressure hose at pump.
6. Remove 2 screws (2) from fluid manifold and remove manifold from sprayer.
7. Remove pressure control (12) from fitting (11).

Installation (See Fig. 8, Page 22)

NOTE: The pressure control has been preset at the factory to the design stall pressure.

1. Apply red thread locking adhesive (provided in kit) to the brass threads of the pressure control (12).
2. Assemble pressure control (12) into fitting (11) and torque to 140 in. lbs (12 ft. lbs). Do not pinch or damage the wires on the pressure control.
3. Assemble the fluid manifold to the control box with 2 screws (2).
4. Connect the high-pressure hose at pump.
5. Turn pressure control (12) fully clockwise to maximum pressure.
6. Slide knob (14) and baffle (14a) onto stem of pressure control (12). Install clip 13.
7. Install label (15) on knob (14) with indicator pointing at “+” on the control box (1).
8. Attach pressure control connector to control board (8).
9. Install cover (16) with 4 screws (17).

Drive Housing Replacement

CAUTION

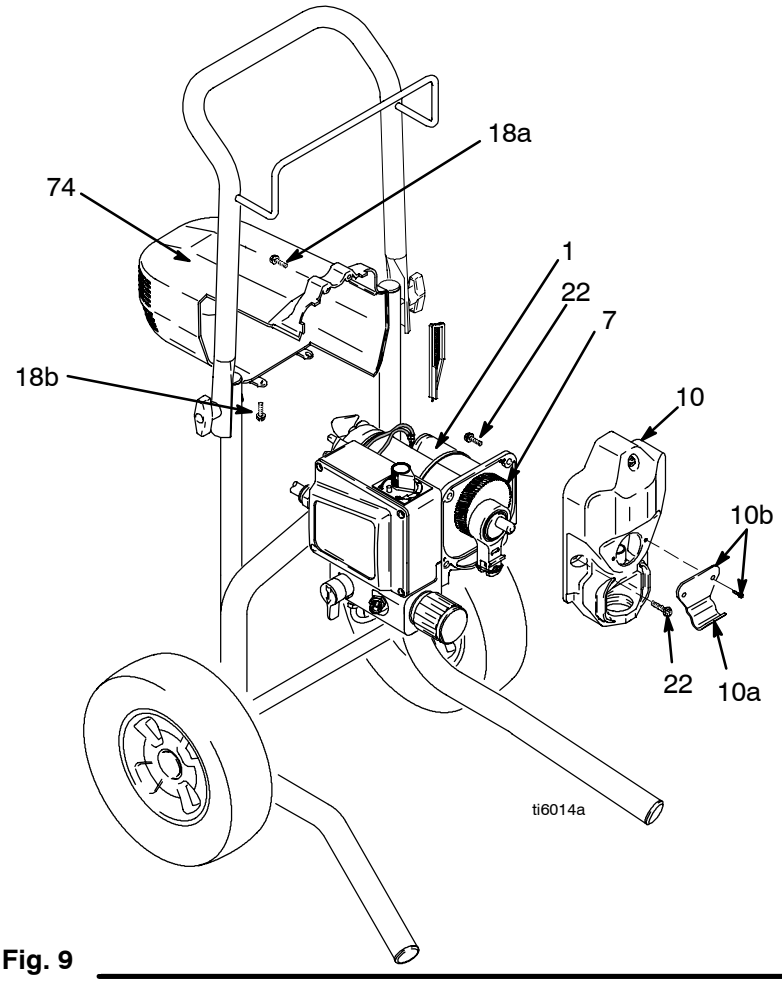
Do not drop gear cluster (7) when removing drive housing (10). Gear cluster may stay engaged in motor front end bell or drive housing.

Disassembly

1. **Relieve pressure**, page 8.
2. Remove pump (13), Displacement Pump Replacement, page 26.
3. Fig. 9. Remove two screws (18a).Tip sprayer up. Remove two screws (18b) and remove shroud (74).
4. Remove two front screws (22).
5. Remove two back screws (22).
6. Pull drive housing (10) off of motor (1).

Assembly

1. Push drive housing (10) onto motor (1)
2. Install two front screws (22).
3. Install two back screws (22).
4. Fig. 9. Install shroud (74) with two screw (18a).Tip sprayer up. Install two screws (18b).
5. Install pump (13) Displacement Pump Replacement, page 26.
6. Install new access cover (10a) with two screws (10b).



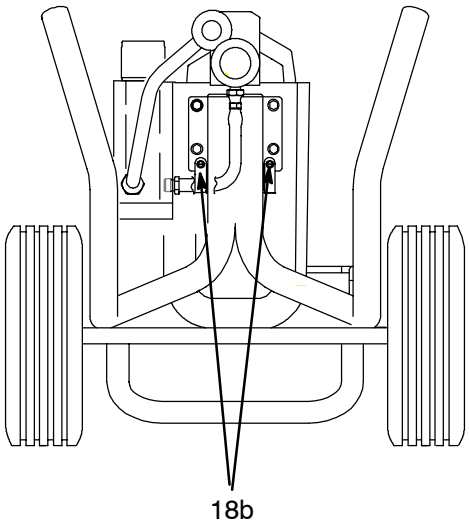


Fig. 9

Motor Replacement

Disassembly

1. **Relieve pressure;** page 8.
2. Remove pump (13), Displacement Pump Replacement, page 26.

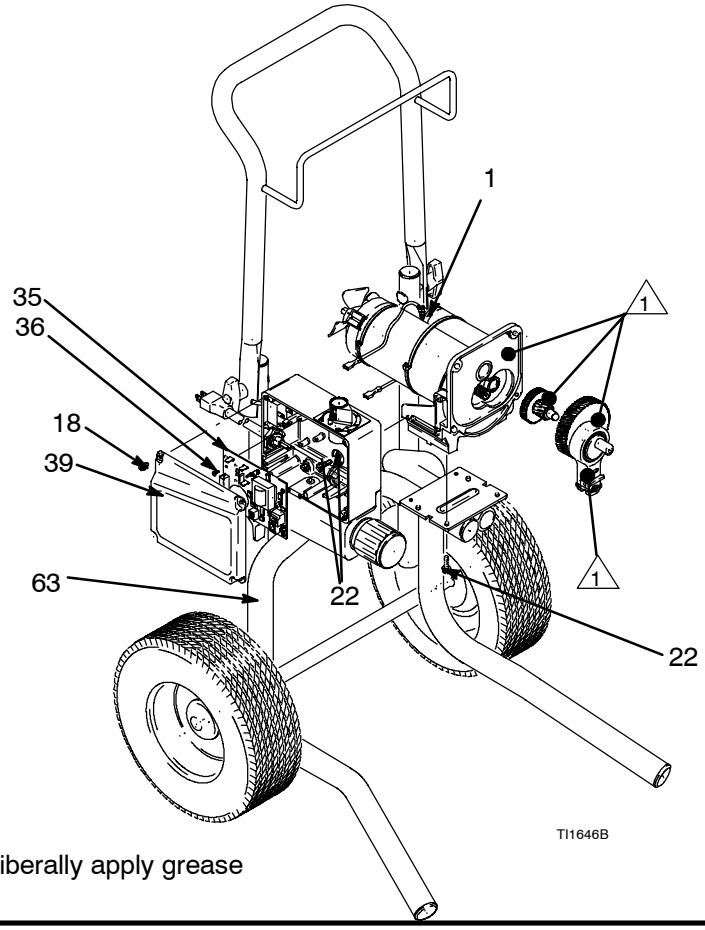
CAUTION

Do not drop gear cluster (7) when removing drive housing (10). Gear cluster may stay engaged in motor front end bell or drive housing.

3. Remove drive housing (10), **Drive Housing Replacement**, page 24.
4. Remove fluid manifold; **Pressure Control Replacement**, page 20 or 22.
5. Remove control board; **Control Board Replacement**, page 19 or 21.
6. Remove strain relief (37; Fig.13) and motor fan (2).
7. Remove three screws (22) behind board and remove control housing (21).
8. Remove four screws (22) and motor (1) from frame (63).

Assembly

1. Install new motor (1) on frame (63) with four screws (22).
2. Install control housing (21) with three screws (22).
3. Install strain relief (37; Fig. 13) and motor fan (2).
4. Install fluid manifold; **Pressure Control Replacement**, page 20 or 22.
5. Install control board; **Control Board Replacement**, page 19 or 21.
6. Install drive housing (10); **Drive Housing Replacement**, page 24.
7. Install pump (13); **Displacement Pump Replacement**, page 26.



1 Liberally apply grease

Fig. 10

Displacement Pump Replacement

Removal

1. Flush pump (13).

2. **Relieve pressure;** page 8.

3. Fig. 11. Remove two screws (10b) and cover (10a).

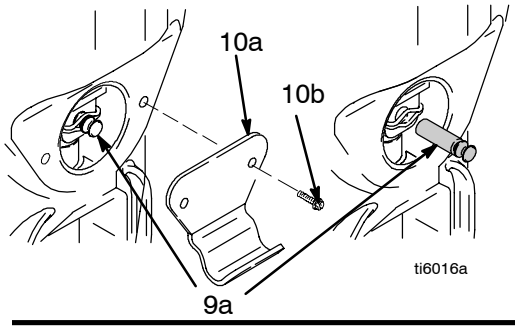


Fig. 11

4. Cycle pump until pump pin (9a) is in position to be removed. Remove pump pin (9a).

5. Fig. 12. Remove suction tube (78) and hose (19).

6. Loosen pump jam nut (12). Unscrew pump.

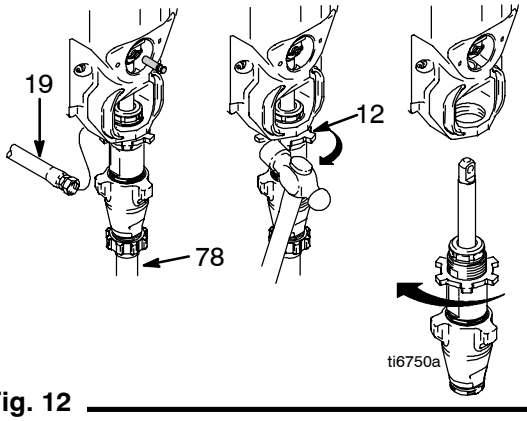


Fig. 12

Installation

If pin works loose, parts could break off due to force of pumping action. Parts could project through the air and result in serious injury or property damage.

CAUTION

If the pump locknut loosens during operation, the threads of the drive housing will be damaged.

1. Fig. 13. Extend pump piston rod fully. Apply grease to top of pump rod at (A) or inside connecting rod.

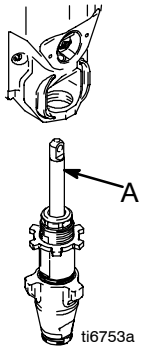


Fig. 13

2. Fig. 11. Install pump pin (9a). Verify retainer spring is in groove of pump pin.

3. Push pump up until pump threads engage.

4. Screw in pump until threads are flush with drive housing opening. Align pump outlet to back.

5. Fig. 12. Install suction tube (78) and hose (19).

6. Fig. 14. Screw jam nut (12) up onto pump until nut stops. Tighten jam nut by hand, then tap 1/8 to 1/4 turn with a 20 oz (maximum) hammer to approximately 75 +/–5 ft–lb (102 N·m).

Fig. 14

7. Fig. 15. Fill packing nut with pisont lube until fluid flows onto top of seal.

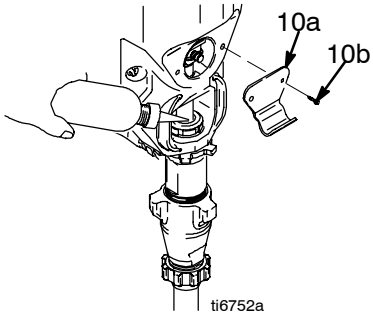


Fig. 15

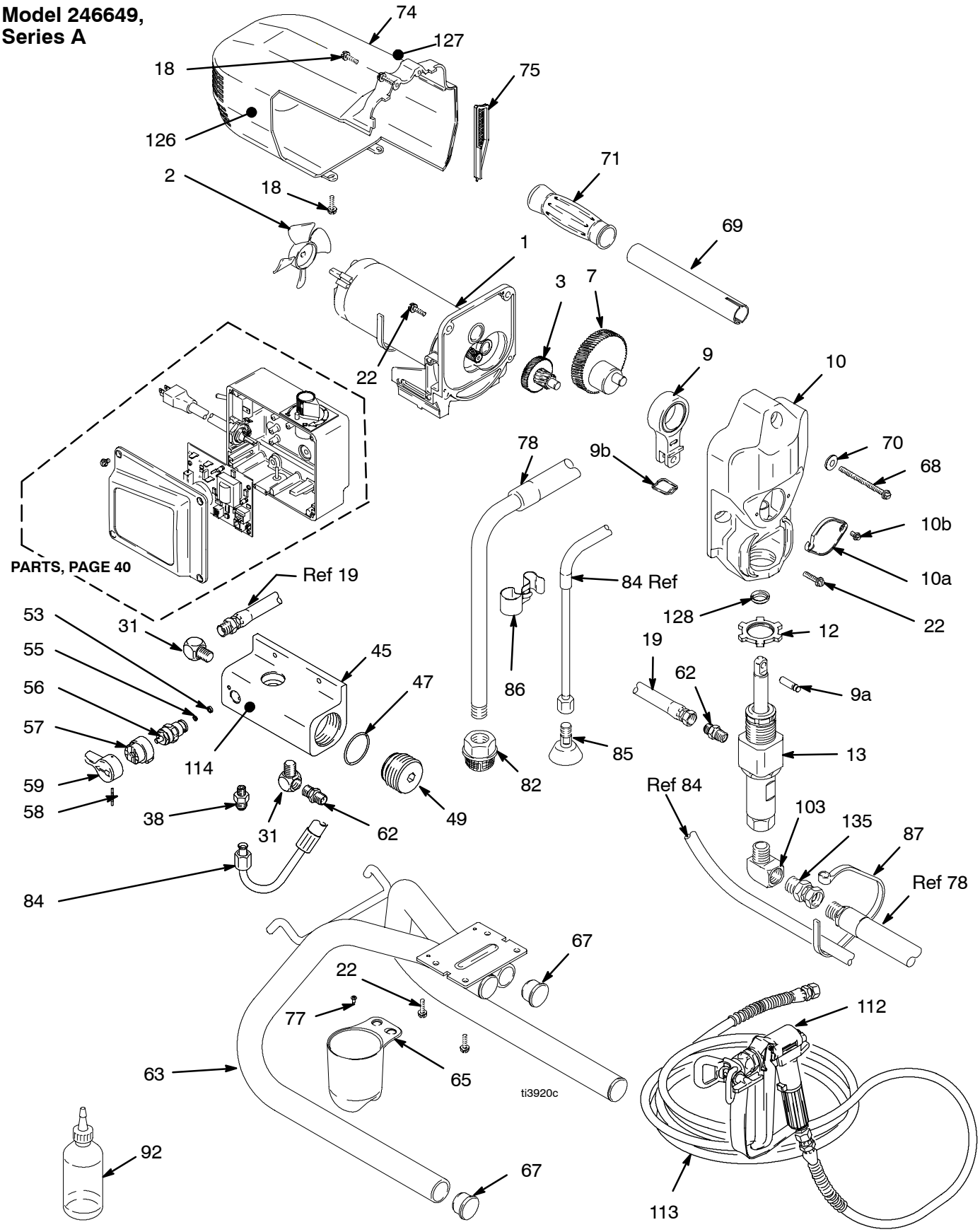
8. Fig. 11. Install cover (10a); with screws (10b).

Notes

Parts Drawing – Sprayer

Zip Spray 1900™ Plus Sprayer

Model 246649,
Series A



Parts List – Sprayer

Zip Spray 1900 Plus™ Sprayer

Model 246649, Series A

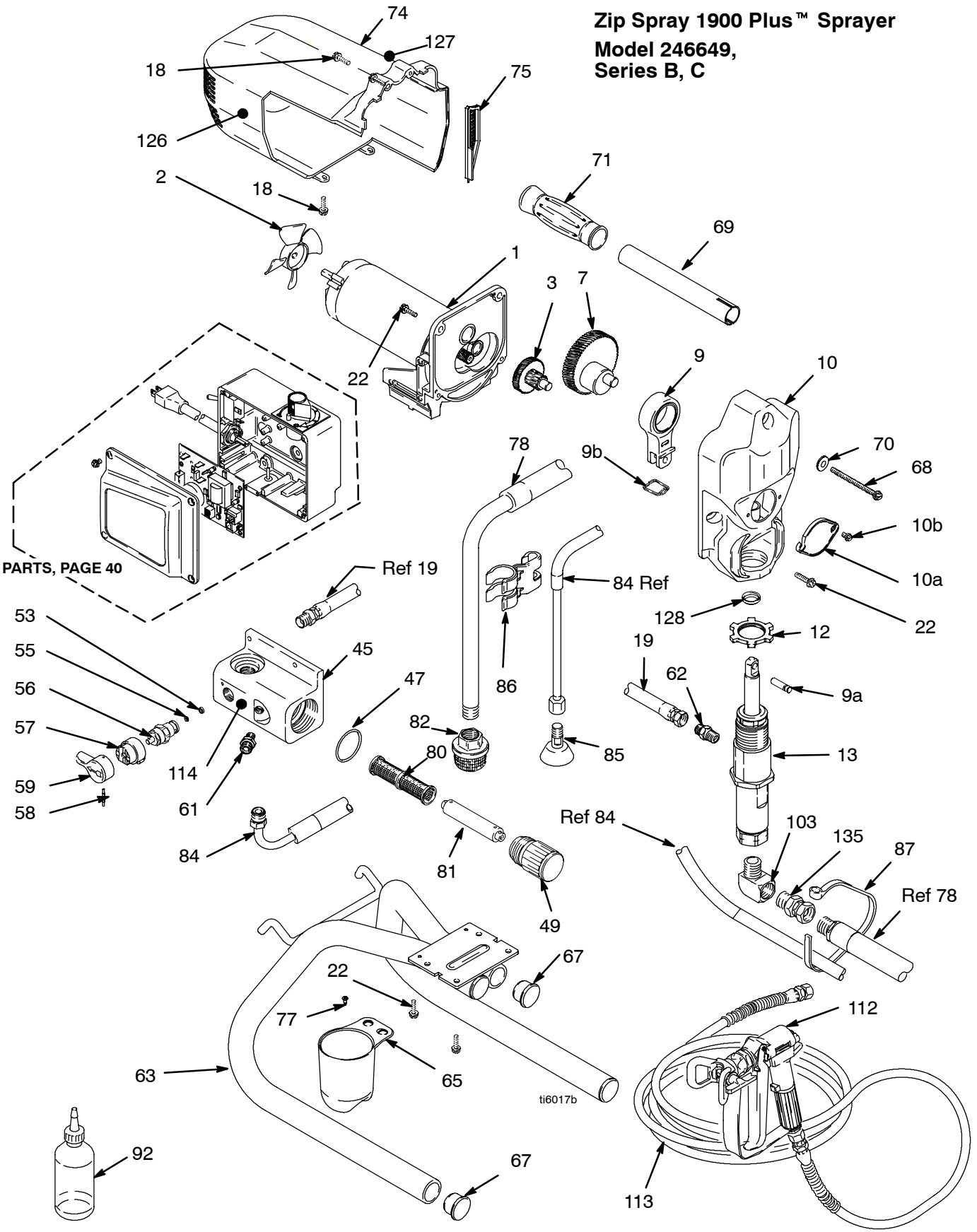
REF NO.	PART NO.	DESCRIPTION	QTY
1	**245893**†	**MOTOR, 120 Vac**	**1**
2	115525	BLADE, fan motor	1
3	**243219**	**GEAR, combination**	**1**
7	**243218**	**CRANK SHAFT**	**1**
9	**243221**	**CONNECTING ROD**	**1**
		includes 9a and 9b	
9a	195175	PIN, pump	1
9b	195512	RETAINER, pin	1
10	**243220**	**DRIVE HOUSING**	**1**
		includes 10a and 10b	
10a	195099	COVER	1
10b	115492	SCREW	2
12	195150	NUT, jam, pump	1
13	**243187**	**PUMP**	1
		Manual 309428	
18	115492	SCREW, mach slot hex, washer hd	4
19	241926	HOSE, coupled, high pressure, Series A	1
22	115495	SCREW, slot hd, hex, washer hd	8
31	195847	ADAPTER, pipe, hex	2
38	116150	FITTING, adapter	1
45	195157	HOUSING, filter (Series A)	1
47	104361	O-RING	1
49	195372	CAP, filter	1
53	111699	GASKET, seat, valve	1
55	15E022	VALVE, seat	1
56	235014	ASSY, drain valve includes 53 and 55	1
57	224807	ASSY, cam, drain valve	1
58	111600	PIN, grooved	1
59	187625	HANDLE, valve, drain	1
62	162453	NIPPLE, 1/4 npt(m) x 1/4 npsm	2
63	241858	FRAME, stand mount	1
65	195177	HOLDER, suction tube	1
67	107310	PLUG, tubing	4
68	115506	SCREW, slot hd, hex, washer hd	1
69	195425	HANDLE, sprayer	1
70	100016	WASHER, lock	1
71	108063	GRIP, handle	1
74	245439	SHROUD, motor includes 18, 75, 126, 127	1
75	198933	VENT, side	1
77	115723	SCREW, mach, pnhd, self-drill	3
78	244354	HOSE, suction, flexible	1
82	187651	STRAINER	1
84	244040	HOSE, drain, includes 85, 86	1
85	241920	DEFLECTOR, threaded	1
86	195186	CLIP, spring (Series A)	1
87	114958	STRAP, tie	1
92	248681	FLUID, piston lube (6 pack)	1
103	115764	FITTING, elbow, 90°	1
112	116987	GUN, 400 Series, 4-Finger Manual 309971	1
113	116986	HOSE, coupled, 1/4 in. x 50 ft (15 m)	1
114	195811	LABEL, instruction	1
126	195833▲	LABEL, WARNING	1
127	195838▲	LABEL, DANGER	1
128	115491	WIPER, rod	1
135	156684	UNION, adapter (swivel)	1

▲*Replacement Danger and Warning labels, tags, and cards are available at no cost.*

† Motor Brush Kit 243215 is available

Parts Drawing – Sprayer

Zip Spray 1900 Plus™ Sprayer
Model 246649,
Series B, C



Parts List – Sprayer

Zip Spray 1900 Plus™ Sprayer

Model 246649, Series B, C

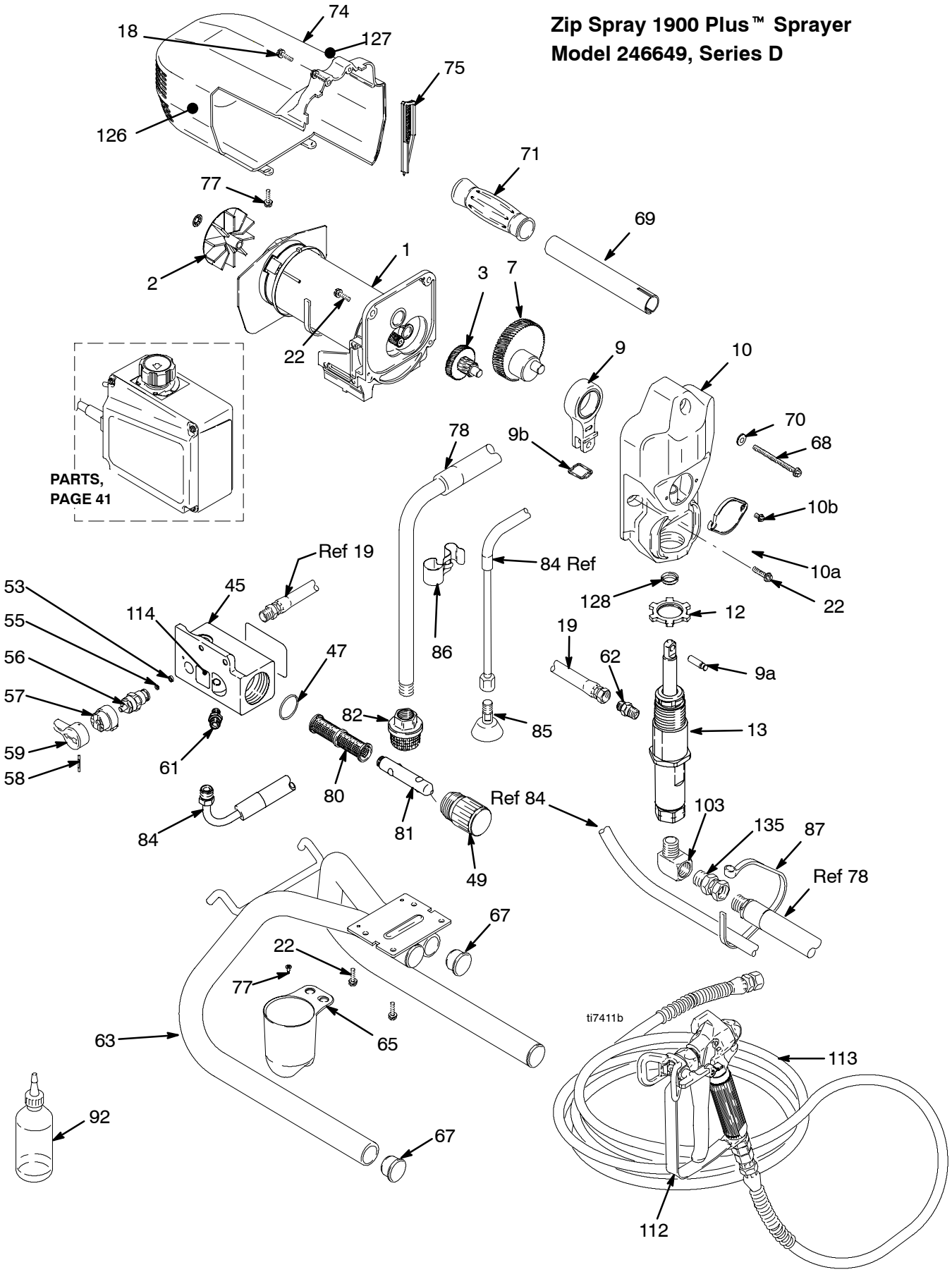
REF NO.	PART NO.	DESCRIPTION	QTY
1		**MOTOR, 120 Vac**	
	245893†	**246649, B**	**1**
	249610†	**246649, C**	**1**
2	115525	BLADE, fan motor	1
3	**243219**	**GEAR, combination**	**1**
7	**243218**	**CRANK SHAFT**	**1**
9	**243221**	**CONNECTING ROD**	**1**
		includes 9a and 9b	
9a	195175	PIN, pump	1
9b	195512	RETAINER, pin	1
10	**243220**	**DRIVE HOUSING**	**1**
		includes 10a and 10b	
10a	195099	COVER	1
10b	115492	SCREW	2
12	195150	NUT, jam, pump	1
13	**243187**	**PUMP**	1
		Manual 309428	
18	115492	SCREW, mach slot hex, washer hd	4
19	15C709	HOSE, coupled, high pressure, Series B	1
22	115495	SCREW, slot hd, hex, washer hd	8
45	15E180	HOUSING, filter	1
47	104361	O-RING	1
49	15E289	CAP, filter	1
53	111699	GASKET, seat, valve	1
55	15E022	VALVE, seat	1
56	235014	ASSY, drain valve	1
		includes 53 and 55	
57	224807	ASSY, cam, drain valve	1
58	111600	PIN, grooved	1
59	187625	HANDLE, valve, drain	1
61	15E539	NIPPLE, 1/4 npsm x 1/8 npsm (Series B only)	1
62	162453	NIPPLE, 1/4 npt(m) x 1/4 npsm	1
63	241858	FRAME, stand mount	1
65	195177	HOLDER, suction tube	1
67	107310	PLUG, tubing	4
68	115506	SCREW, slot hd, hex, washer hd	1
69	195425	HANDLE, sprayer	1
70	100016	WASHER, lock	1
71	108063	GRIP, handle	1
74	245439	SHROUD, motor	1
		includes 18, 75, 126, 127	
75	198933	VENT, side	1
77	115723	SCREW, mach, pnhd, self-drill	3
78	244354	HOSE, suction, flexible	1
80	245527	FILTER, fluid	1
81	15E288	INSERT, manifold	1
82	187651	STRAINER	1
84	244240	HOSE, drain, includes 85, 86	
85	241920	DEFLECTOR, threaded	1
86	276888	CLIP, spring	1
87	114958	STRAP, tie	1
92	248681	FLUID, piston lube (6 pack)	1
103	115764	FITTING, elbow, 90°	1
112	116987	GUN, 400 Series, 4-Finger	1
		Manual 309971	
113	116986	HOSE, coupled, 1/4 in. x 50 ft (15 m)	1
114	195811	LABEL, instruction	1
126	195833▲	LABEL, WARNING	1
127	195838▲	LABEL, DANGER	1
128	115491	WIPER, rod	1
135	156684	UNION, adapter (swivel)	1

▲*Replacement Danger and Warning labels, tags, and cards are available at no cost.*

† Motor Brush Kit 243215 is available

Parts Drawing – Sprayer

Zip Spray 1900 Plus™ Sprayer
Model 246649, Series D



Parts List – Sprayer

Zip Spray 1900 Plus™ Sprayer

Model 246649, Series D

REF NO.	PART NO.	DESCRIPTION	QTY
1	**249826‡**	**KIT, MOTOR, 120 vac**	**1**
2	249947†	KIT, repair, fan	1
3	**243219**	**GEAR, combination**	**1**
7	**243218**	**CRANK SHAFT**	**1**
9	**243221**	**CONNECTING ROD**	**1**
		includes 9a and 9b	
9a	195175	PIN, pump	1
9b	195512	RETAINER, pin	1
10	**243220**	**DRIVE HOUSING**	**1**
		includes 10a and 10b	
10a	195099	COVER	1
10b	115495	SCREW	2
12	195150	NUT, jam, pump	1
13	**243187**	**PUMP**	1
		Manual 309060	
18	117501	SCREW, mach slot hex, washer hd	2
19	15C709	HOSE, coupled, high pressure	1
22	115495	SCREW, slot hd, hex, washer hd	8
45	15G326	HOUSING, filter	1
47	104361	O-RING	1
49	15E289	CAP, filter	1
53	111699	GASKET, seat, valve	1
55	15E022	VALVE, seat	1
56	235014	ASSY, drain valve	1
		includes 53 and 55	
57	224807	ASSY, cam, drain valve	1
58	111600	PIN, grooved	1
59	187625	HANDLE, valve, drain	1
61	15E539	NIPPLE, 1/4 npsm x 1/8 npsm	1
62	162453	NIPPLE, 1/4 npt(m) x 1/4 npsm	1
63	241858	FRAME, stand mount	1
65	195177	HOLDER, suction tube	1
67	107310	PLUG, tubing	4
68	115506	SCREW, slot hd, hex, washer hd	1
69	195425	HANDLE, sprayer	1
70	100016	WASHER, lock	1
71	108063	GRIP, handle	1
74	253275	SHROUD, motor	1
		includes 18, 126, 127	
75	15G971	VENT, side	1
77	115723	SCREW, mach, pnhd, self-drill	3
78	244354	HOSE, suction, flexible	1
80	245527	FILTER, 60 mesh	1
	245528	FILTER, 100 mesh	1
	245526	FILTER, 200 mesh	1
81	15E288	FILTER, insert	1
82	245530	STRAINER	1
84	248217	HOSE, drain, includes 85	1
85	241920	DEFLECTOR, threaded	1
86	195186	CLIP, spring	1
87	114958	STRAP, tie	1
92	246681	FLUID, piston lube (6 pack)	1
103	115764	FITTING, elbow, 90°	1
112	287960	GUN (Manual 309971)	1
113	277201	HOSE, coupled, 1/4 in. x 50 ft (15 m)	1
114	195811	LABEL, instruction	1
126	195833▲	LABEL, WARNING	1
127	15D523▲	LABEL, DANGER	1
128	115491	WIPER, rod	1
135	156684	UNION, adapter (swivel)	1

▲ *Extra Danger and Warning tags and labels available free.*

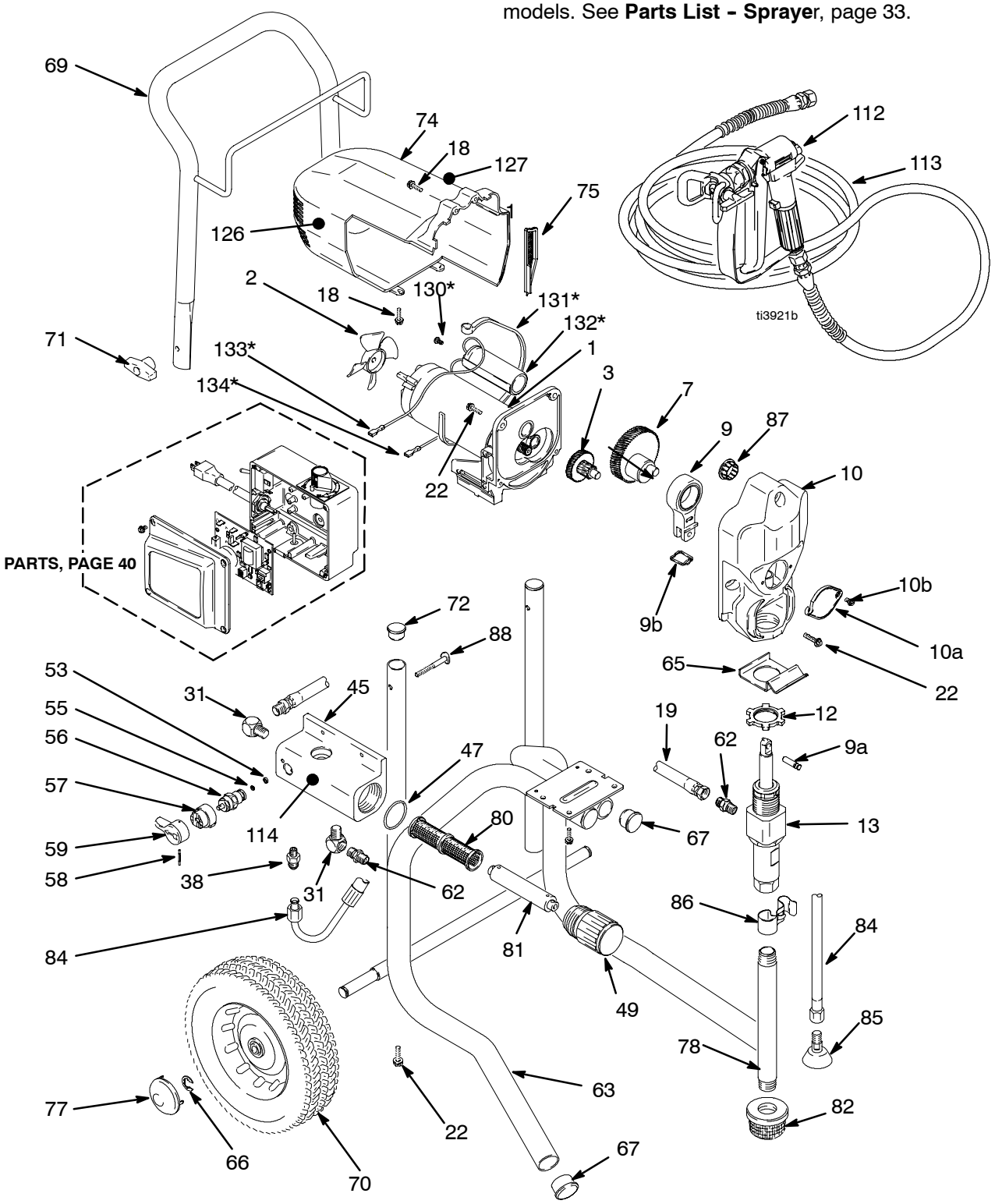
‡ Motor Brush Kit 249946 is available

† New fan included in Motor Kit 249826

Parts Drawing – Sprayer

Zip Spray 1900 Sprayer
Model 233782, Series A & B

* Parts 130 through 134 not used on later models. See **Parts List – Sprayer**, page 33.



Parts List – Sprayer

Zip Spray 1900 Sprayer

Model 233782, Series A & B

REF NO.	PART NO.	DESCRIPTION	QTY
1		KIT, MOTOR, 120 Vac	
	242009†	233782, A	1
	245893†	233782, B	1
2	115525	BLADE, fan motor	1
3	243219	KIT, GEAR, combination	1
7	243218	KIT, CRANK SHAFT	1
9	243221	KIT, CONNECTING ROD	1
		includes 9a and 9b	
9a	195175	PIN, pump	1
9b	195512	RETAINER, pin	1
10	243220	KIT, DRIVE HOUSING	1
		includes 10a and 10b	
10a	195099	COVER	1
10b	115492	SCREW	2
12	195150	NUT, jam, pump	1
13	243187	PUMP	1
		Manual 309428	
18	115492	SCREW, mach slot hex, washer hd	4
19	241926	HOSE, coupled, high pressure	1
22	115495	SCREW, slot hd, hex, washer hd	8
31	195847	ADAPTER, pipe, hex	2
38	116150	FITTING, adapter	1
45	195157	HOUSING, filter	1
47	104361	O-RING	1
49	195139	CAP, filter	1
53	111699	GASKET, seat, valve	1
55	15E022	VALVE, seat	1
56	235014	KIT, DRAIN VALVE	1
		includes 53 and 55	
57	224807	ASSY, cam, drain valve	1
58	111600	PIN, grooved	1
59	187625	HANDLE, valve, drain	1
62	162453	NIPPLE, 1/4 npt(m) x 1/4 npsm	2
63	241934	FRAME, cart	1
65	195497	HOOK, pail	1
66	101242	RING, retaining, external	2
67	107310	PLUG, tubing	4
69	241938	HANDLE, cart	1
70	106062	WHEEL, semi-pneumatic	2
71	115480	KNOB, t-handle	2
72	105521	PLUG, tubing	4
74	245439	SHROUD, motor,kit	1
		includes 18, 75, 126, 127	
75	198933	VENT, side	1
77	104811	CAP, hub	2
78	198973	TUBE, suction	1
80	245527	FILTER, fluid	1
81	196773	FILTER, insert	1
82	245530	STRAINER, kit	1
84	244042	KIT, RETURN line	1
85	241920	DEFLECTOR, threaded	1
86	195696	CLIP, spring	1
87	115979	PLUG	1
88	115097	SCREW	1
112	116987	GUN, 400 Series, 4-Finger	1
		Manual 309971	
113	116986	HOSE, 1/4 in. x 50 ft (15 m)	1
114	195811	LABEL, instruction	1
126	195833▲	LABEL, WARNING	1
127	195838▲	LABEL, DANGER	1
130	115762*	SCREW	2
131	103546*	STRAP, tie, wire	1
132	243415*	KIT, CAPACITOR	1
133	195936*	WIRE, jumper, red	1
134	195937*	WIRE, jumper, black	1

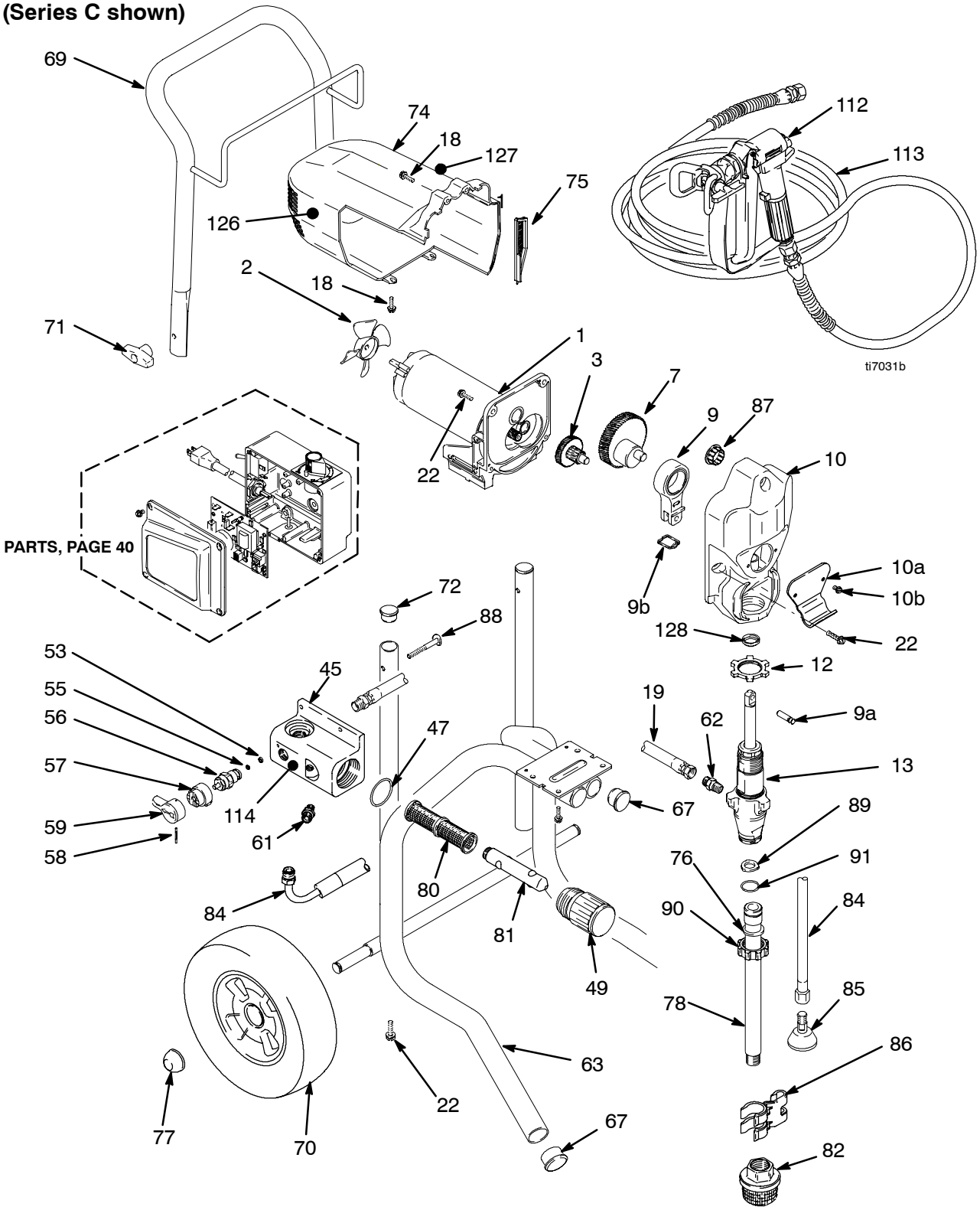
▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

† Motor Brush Kit 243215 is available

* Used on 233782, A only

Parts Drawing – Sprayer

Zip Spray 1900 Sprayer
Model 233782,
Series C, D, E
(Series C shown)



Parts List – Sprayer

Zip Spray 1900 Sprayer

Model 233782, Series C, D, E

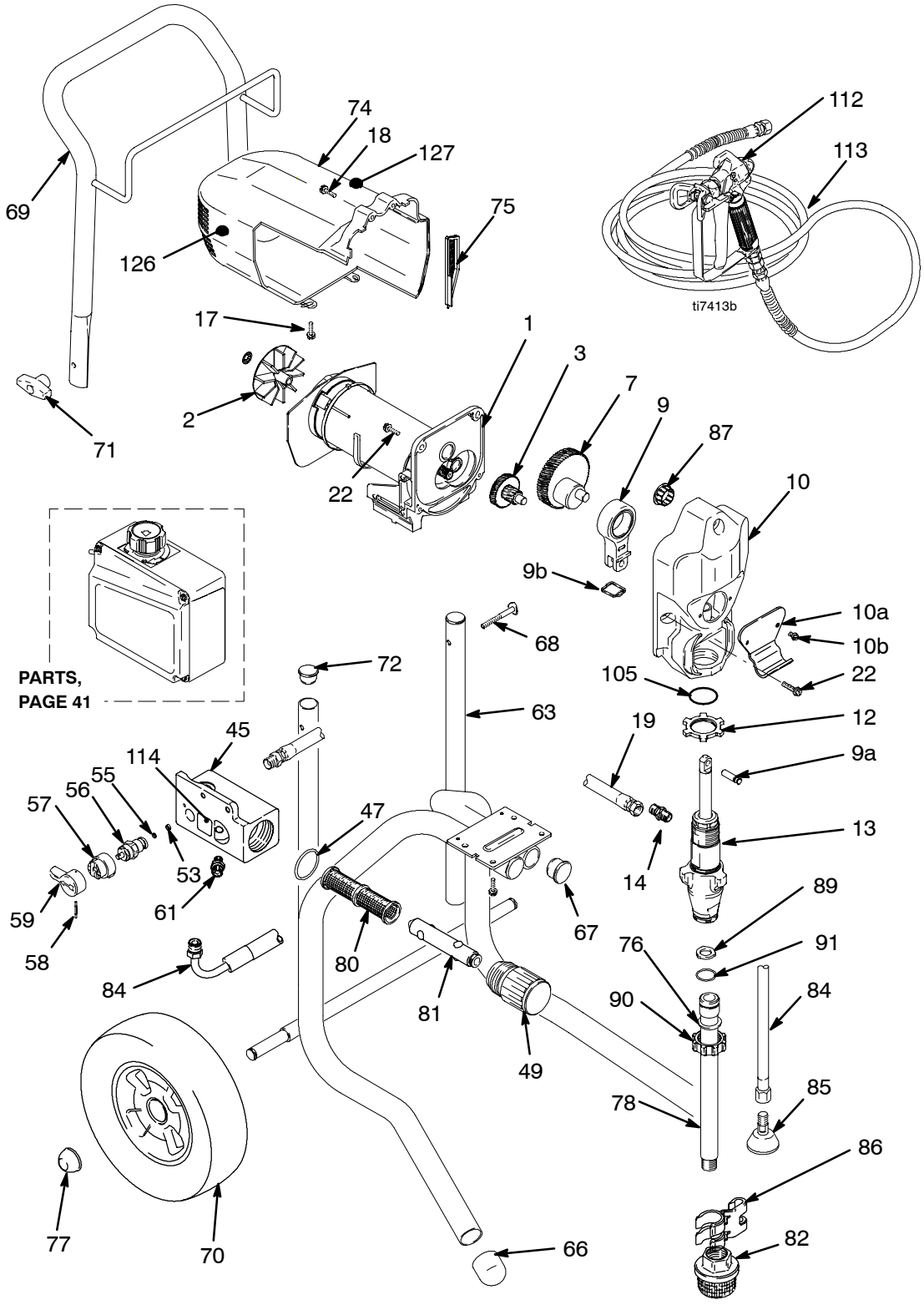
REF NO.	PART NO.	DESCRIPTION	QTY
1		KIT, MOTOR, 120 Vac	
	245893†	233782; C, D	1
	249610†	233782; E	1
2	115525	BLADE, fan motor	1
3	243219	KIT, GEAR, combination	1
7	243218	KIT, CRANK SHAFT	1
9	243221	KIT, CONNECTING ROD includes 9a and 9b	1
9a	195175	PIN, pump	1
9b	195512	RETAINER, pin	1
10	243220	KIT, DRIVE HOUSING includes 10a and 10b	1
10a	15E286	HOOK, pail	1
10b	115492	SCREW	2
12	195150	NUT, jam, pump	1
13		PUMP	1
	243187	Series C, manual 309428	
	287658	Series D, manual 311062	
18	115492	SCREW, mach slot hex, washer hd	4
19	15C709	HOSE, coupled, high pressure	1
22	115495	SCREW, slot hd, hex, washer hd	8
45	15E180	HOUSING, filter	1
47	104361	O-RING	1
49	15E289	CAP, filter	1
53	111699	GASKET, seat, valve	1
55	15E022	VALVE, seat	1
56	235014	KIT, DRAIN VALVE includes 53 and 55	1
57	224807	ASSY, cam, drain valve	1
58	111600	PIN, grooved	1
59	187625	HANDLE, valve, drain	1
61	15E539	NIPPLE, 1/4 npsm x 1/8 npsm	2
62	162453	NIPPLE, 1/4 npt(m) x 1/4 npsm	2
63	241934	FRAME, cart	1
67	107310	PLUG, tubing	4
69	241938	HANDLE, cart	1
70	119451	WHEEL, semi-pneumatic	2
71	115480	KNOB, t-handle	2
72	105521	PLUG, tubing	4
74	245439	SHROUD, motor,kit includes 18, 75, 126, 127	1
75	198933	VENT, side	1
76	15B652	WASHER, suction (series D)	1
77	119452	CAP, hub	2
78		TUBE, suction, intake	1
	15E290	Series C	
	15F551	Series D	
80	245527	FILTER, fluid	1
81	15E288	FILTER, insert	1
82	187651	STRAINER, kit	1
84	244242	KIT, RETURN line	1
85	241920	DEFLECTOR, threaded	1
86	276888	CLIP, spring	1
87	115979	PLUG	1
88	115097	SCREW	1
89	115099	WASHER, garden hose (series D)	1
90	15E813	NUT, intake tube (series D)	1
91	103413	O-RING (series D)	1
112	116987	GUN, 400 Series, 4-Finger Manual 309971	1
113	116986	HOSE, 1/4 in. x 50 ft (15 m)	1
114	195811	LABEL, instruction	1
126	195833▲	LABEL, WARNING	1
127	195838▲	LABEL, DANGER	1
128	115491	WIPER, rod (series D)	1

▲ *Replacement Danger and Warning labels, tags, and cards are available at no cost.*

† Motor Brush Kit 243215 is available

Parts Drawing

Zip Spray 1900 Sprayer
Model 233782, Series F



Parts List

Zip Spray 1900 Sprayer

Model 233782, Series F

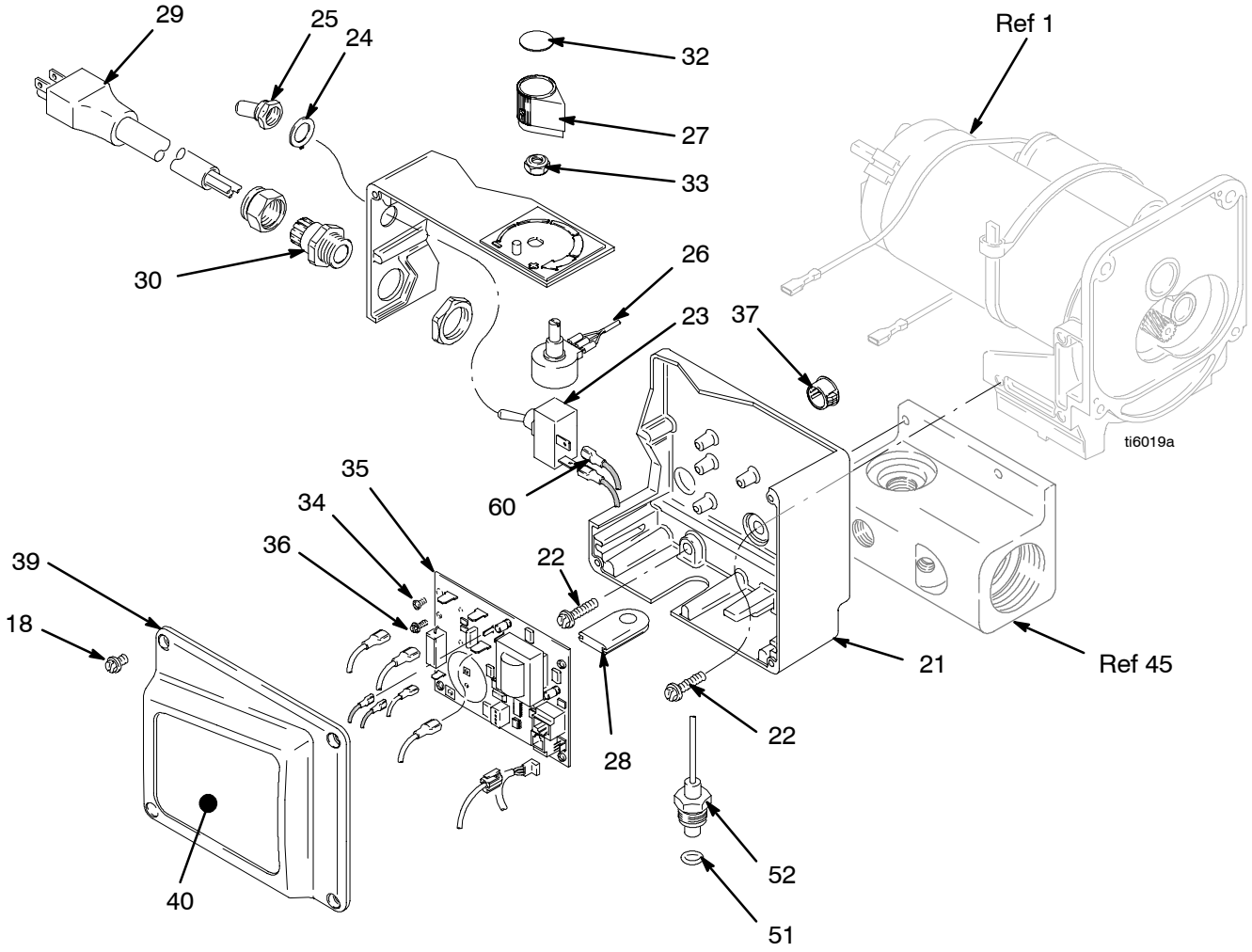
REF NO.	PART NO.	DESCRIPTION	QTY
1	**249826‡**	**KIT, MOTOR, 120 vac**	**1**
2	249947†	BLADE, fan motor	1
3	**243219**	**GEAR, combination**	**1**
7	**243218**	**CRANK SHAFT**	**1**
9	**243221**	**CONNECTING ROD**	**1**
		includes 9a and 9b	
9a	195175	PIN, pump	1
9b	195512	RETAINER, pin	1
10	**243220**	**DRIVE HOUSING**	**1**
10a	15E286	HOOK, pail	1
10b	117501	SCREW	2
12	195150	NUT, jam, pump	1
13	**287658**	**PUMP**	1
		Manual 311062	
14	162453	NIPPLE, 1/4 npt(m) x 1/4 npsm	1
17	115723	SCREW, mach, pnhd, self drill	2
18	117501	SCREW, mach slot hex, washer hd	2
19	15C709	HOSE, coupled, high pressure	1
22	115495	SCREW, slot hd, hex, washer hd	8
45	15G326	HOUSING, filter	1
47	104361	O-RING	1
49	15E289	CAP, filter	1
53	111699	GASKET, seat, valve	1
55	15E022	VALVE, seat	1
56	235014	ASSY, drain valve	1
		includes 53 and 55	
57	224807	ASSY, cam, drain valve	1
58	111600	PIN, grooved	1
59	187625	HANDLE, valve, drain	1
61	15E539	NIPPLE, 1/4 npsm x 1/8 npsm	1
63	241934	FRAME, cart	1
66	15B197	CAP, leg	2
67	107310	PLUG, tubing	2
68	115097	SCREW, curved head	2
69	241938	HANDLE, cart	1
70	119451	WHEEL, semi-pneumatic	2
71	115480	KNOB, t-handle	2
72	105521	PLUG, tubing	2
74	253275	SHROUD, motor,kit	1
		includes 18, 75, 126, 127	
75	15G971	VENT, side	1
76	15B652	WASHER, suction	1
77	119452	CAP, hub	2
78	15F551	TUBE, suction	1
80	245527	FILTER, 60 mesh	1
	245528	FILTER, 100 mesh	1
	245526	FILTER, 200 mesh	1
81	15E288	FILTER, insert	1
82	246385	KIT, strainer	1
84	244240	HOSE, drain, includes 85	1
85	241920	DEFLECTOR, threaded	1
86	276888	CLIP, spring	1
87	115979	PLUG	1
89	115099	WASHER, garden hose	1
90	15E813	NUT, intake tube	1
91	103413	O-RING	1
105	115491	WIPER, rod	1
112	287960	GUN, (Manual 309971)	1
113	277201	HOSE, 1/4 in. x 50 ft (15 m)	1
114	195811	LABEL, instruction	1
126	195833▲	LABEL, WARNING	1
127	15D523▲	LABEL, DANGER	1

▲ *Extra Danger and Warning tags and labels available free.*

‡ Motor Brush Kit 249946 is available

† New fan included in motor kit 249826

Parts Drawing – Sprayer



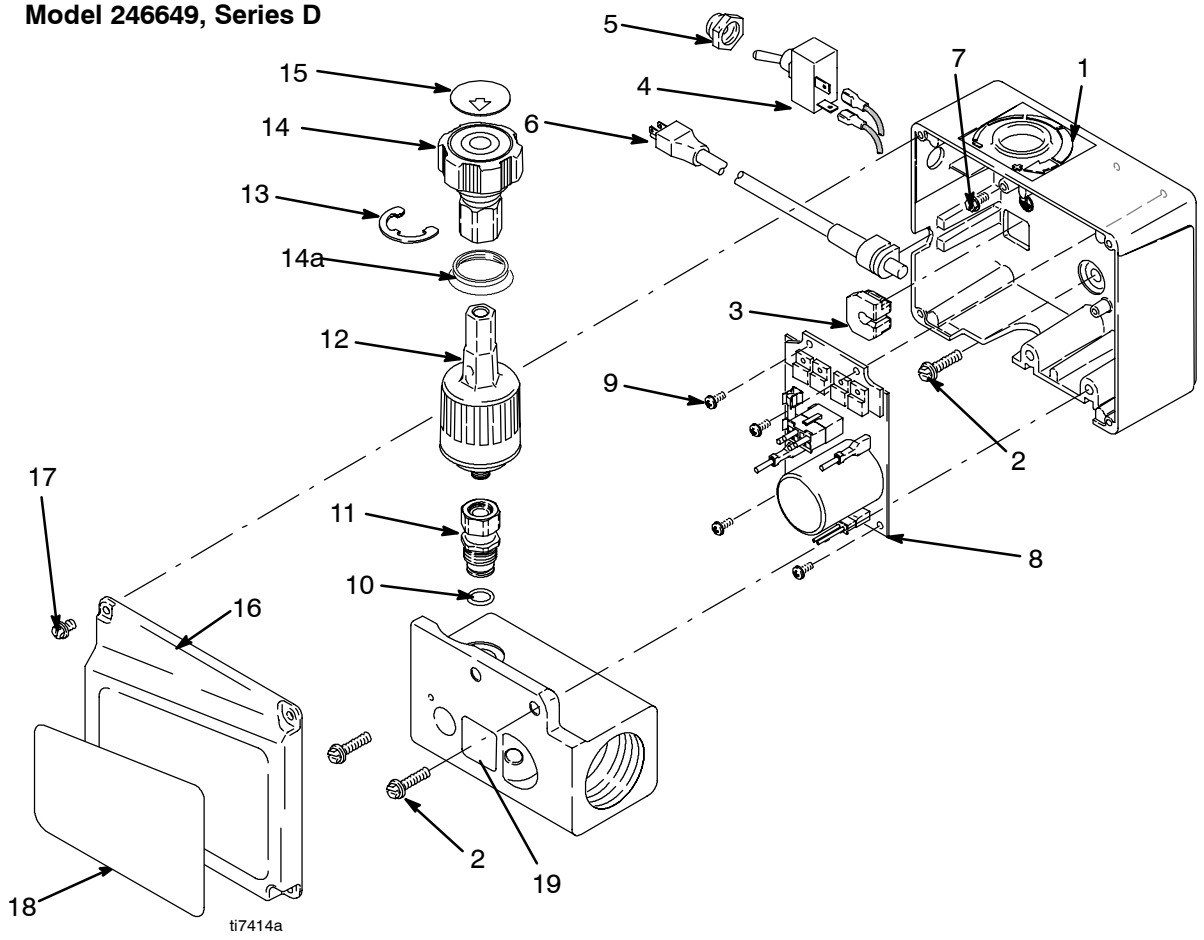
Zip Spray 1900 Sprayer
233782 A, B, C, D, E
246649 A, B, C

See **Wiring Diagram,** page 17.

REF NO.	PART NO.	DESCRIPTION	QTY
18	115492	SCREW, slot hd, hex, washer hd	4
21	276539	HOUSING, control	1
22	115495	SCREW, slot hd, hex, washer hd	5
23	195429	SWITCH, toggle	1
24	105658	RING, locking	1
25	195428	BOOT, toggle	1
26	236352	POTENTIOMETER, adjust, pressure	1
27	116167	KNOB, potentiometer	1
28	195423	GROMMET, transducer	1
29	241729	CORD SET, power	1
30	114421	BUSHING, strain relief	1
32	196904	LABEL, control	1
33	112382	NUT, shaft, sealing	1
34	115498	SCREW, slot hd, hex, washer hd (see page 17)	1
35		BOARD, control (see page 17)	
	241989	233782, A	1
	245892	233782, B, C, D, E	1
	245892	246649, A, B, C	1
36	115494	SCREW, 6-32 X 1/2, TAPTITE	5
37	115756	BUSHING, strain relief	1
39	198935	CONTROL, cover	1
40	15A256	LABEL, identification	1
51	111457	O-RING	1
52	243222	TRANSDUCER, pressure control includes 51	1
60	195866	WIRE, jumper (see page 17)	1

Parts List – Sprayer

Zip Spray 1900 Sprayer
Model 233782, Series F
Model 246649, Series D



See **Wiring Diagram,** page 18.

REF NO.	PART NO.	DESCRIPTION	QTY
1	277210	BOX, control, 190	1
2	115495	SCREW, mach, hex washer hd	5
3	15B118	BUSHING, motor wire	1
4	195429	SWITCH, toggle	1
5	195428	BOOT, toggle	1
6	15G388	CORD, power	1
7	115498	SCREW, mch, slot, hex, wash hd	1
8	253118	CONTROL, board, 190ES (LC)	1
9	115494	SCREW, mach, phillips, pan hd	4
10	103338	PACKING, o-ring	1
11	15G424	ADAPTER, extension, switch, pressure	1
12	253117	CONTROL, pressure, 190, 120V, includes 15	1
13	107146	RING, retaining, ext.	1
14	15G484	KNOB, control, plastic	1
14a	15H147	BAFFLE, knob, pressure	1
15	15G475	LABEL, instructions	1
16	15G970	COVER, control, 190	1
17	115492	SCREW, mach, slot hex wash hd	4
18	15A256	LABEL, identification	1
19	195811	LABEL, instruction	1

Technical Data

100-120V, ∅, A, Hz	Generator Minimum W	Motor HP (W)	Cycles per gallon (liter)	Maximum Delivery gpm (lpm)	Maximum Tip size	Fluid Outlet npsm
1, 15, 50/60	3000	7/8 (653)	680 (180)	0.38 (1.25)	0.019	1/4 in.

Basic Sprayer Wetted Parts: . . . . . zinc-plated carbon steel, polyurethane, polyethylene, stainless steel, PTFE, acetal, chrome plating, leather, V-Max™ UHMWPE, aluminum, stainless steel, tungsten carbide

Dimensions

	Weight lb (kg) with Hose and Gun	Height in. (cm)	Length in. (cm)	Width in. (cm)
Cart	59 (26.8)	40 (101.6)	21.5 (54.6)	21 (53.3)
Stand	47 (21.3)	18 (45.7)	17 (43.2)	14.5 (36.8)

Notes

ASM Standard Warranty

ASM warrants all equipment referenced in this document which is manufactured by ASM and bearing its name to be free from defects in material and workmanship on the date of sale by an authorized ASM distributor to the original purchaser for use. With the exception of any special, extended, or limited warranty published by ASM, ASM will, for a period of twelve months from the date of sale, repair or replace any part of the equipment determined by ASM to be defective. This warranty applies only when the equipment is installed, operated and maintained in accordance with ASM's written recommendations.

This warranty does not cover, and ASM shall not be liable for general wear and tear, or any malfunction, damage or wear caused by faulty installation, misapplication, abrasion, corrosion, inadequate or improper maintenance, negligence, accident, tampering, or substitution of non-ASM component parts. Nor shall ASM be liable for malfunction, damage or wear caused by the incompatibility of ASM equipment with structures, accessories, equipment or materials not supplied by ASM, or the improper design, manufacture, installation, operation or maintenance of structures, accessories, equipment or materials not supplied by ASM.

This warranty is conditioned upon the prepaid return of the equipment claimed to be defective to an authorized ASM distributor for verification of the claimed defect. If the claimed defect is verified, ASM will repair or replace free of charge any defective parts. The equipment will be returned to the original purchaser transportation prepaid. If inspection of the equipment does not disclose any defect in material or workmanship, repairs will be made at a reasonable charge, which charges may include the costs of parts, labor, and transportation.

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MM 309423

Manufactured by ASM Company; a division of Graco Inc.

ASM Company, 3500 N. 1st Avenue, Sioux Falls, SD 57104
www.asmcompany.com
PRINTED IN USA 309423
10/2001 Rev. 04/2006